

Fig. 1: Verification of differential expression of HIF3alpha splice variant 1 by quantitative RT-PCR

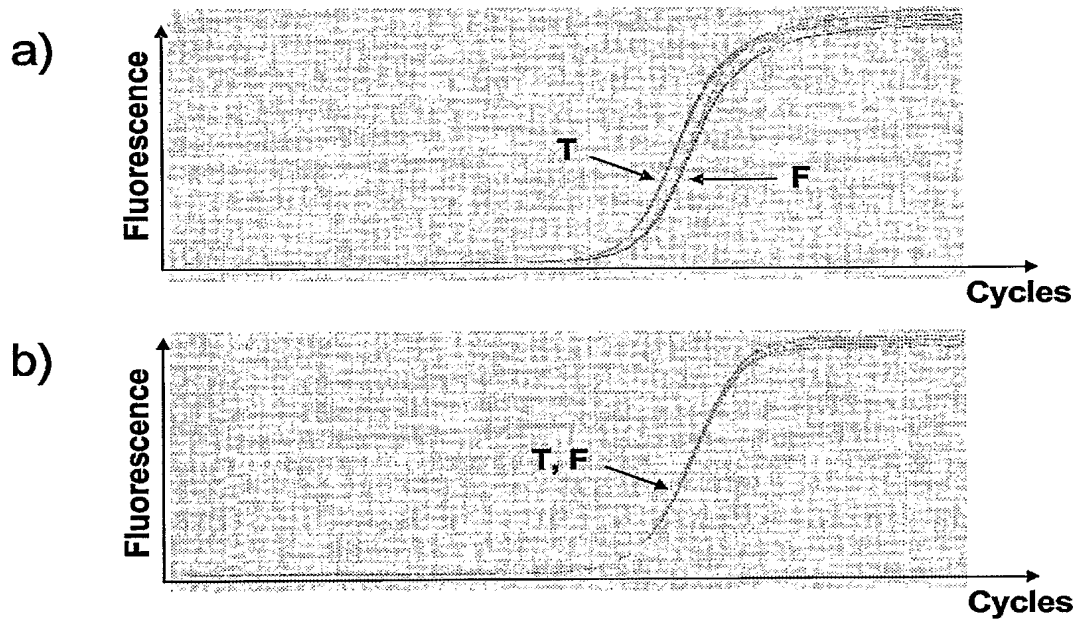


Fig. 2: Verification of differential expression of HIF3alpha splice variant 1 by quantitative RT-PCR

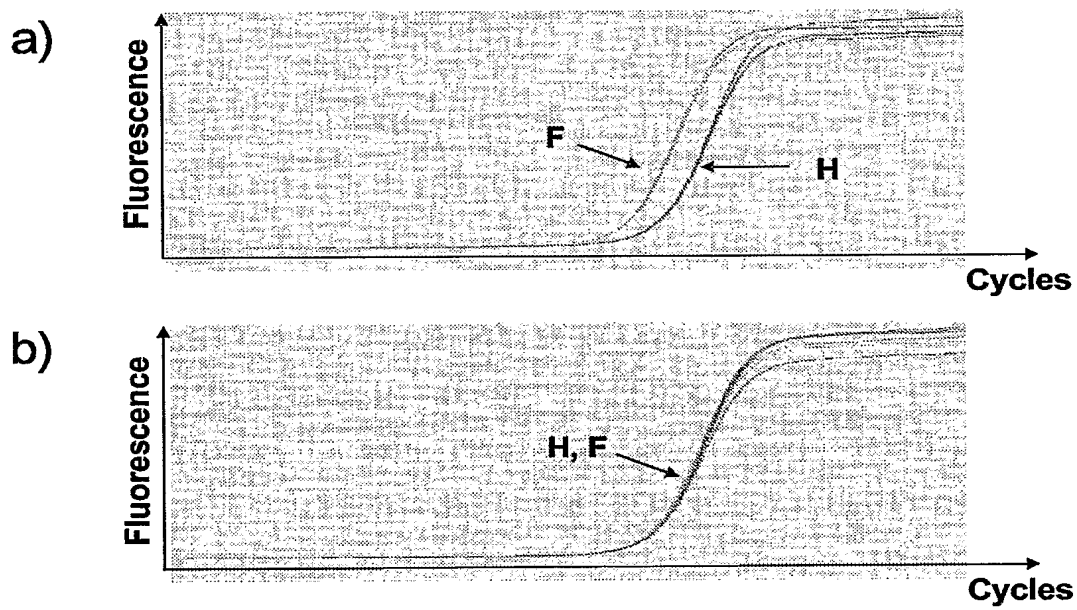


Fig. 3: Verification of differential expression of HIF3alpha splice variant 2 by quantitative RT-PCR

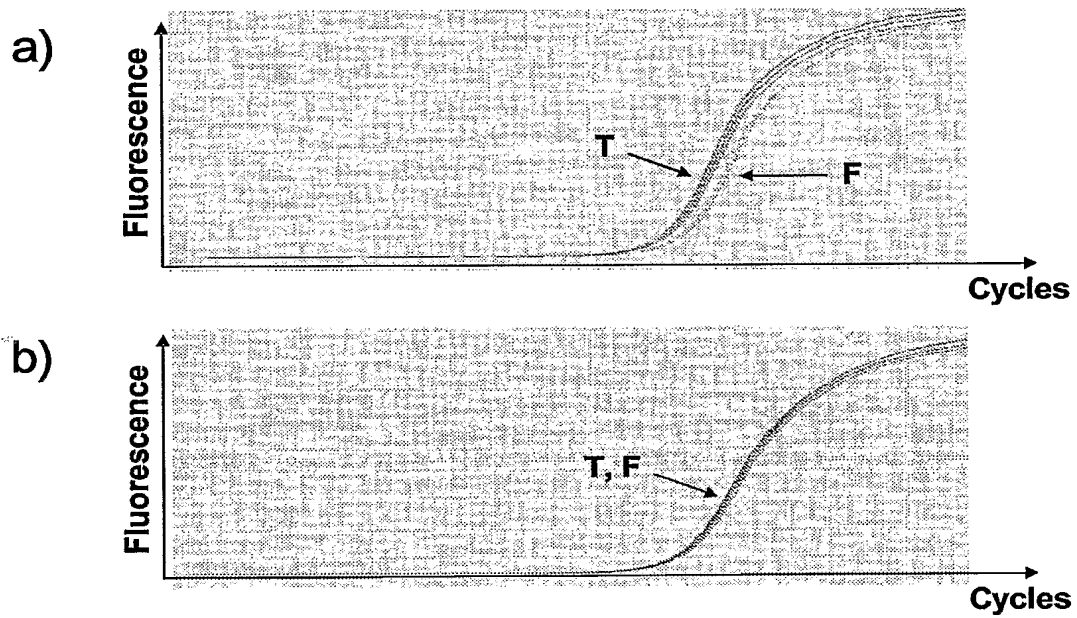


Fig. 4: Verification of differential expression of HIF3alpha splice variant 3 by quantitative RT-PCR

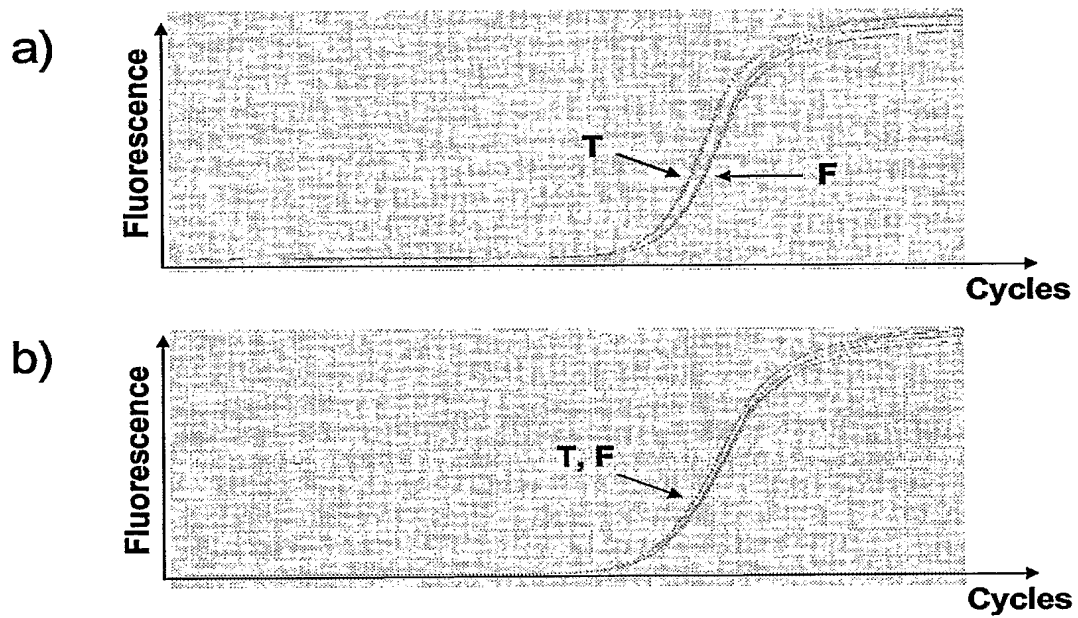


Fig. 5: Verification of differential expression of HIF3alpha splice variant 5 by quantitative RT-PCR

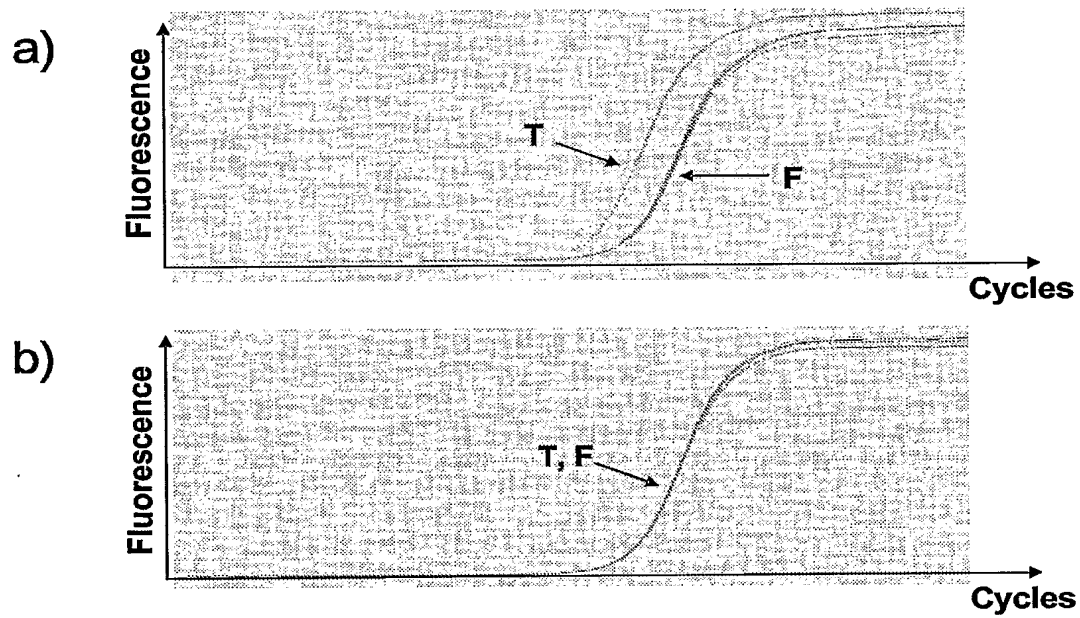


Fig. 6: SEQ ID NO. 1**Length: 289 bp**

```
1  CATTATGAG AGTTTATTCA TTCAAACAT ATTTACTGTC GGGCGTGGTG
51  GTTCATACCA GTAATCCCAG CACTTTGGGA GGCCAAGGCA GGTGGATCGC
101 TTGAACTCAG GAGTTCAAGA CCAGCCTGGG CAACATGGTG GAACTTCGTC
151 TCTACAAAAC ATATAAACAT CAGCCAGGCA TGATGGCACA TAGCTGCAGT
201 CCCAGCTACT TGTGGGAGCT GAAGTAGGAG GATCACTTGA GCCCAGGAGG
251 TCGAGGCTGT GGTGAGCTGT GTTTGTGCCA CTGCACTCC
```

**Fig. 7: Alignment of SEQ ID NO. 1
with human HIF3alpha splice variant sv1 cDNA,
SEQ ID NO. 6**

```
289 GGAGTGCAGTGGCACAAACACAGCTCACCACAGCCTCGACCTCCTGGGCT 240
    |||||||||||||||||||||||||||||||||||||||
1421 GGAGTGCAGTGGCACAAACACAGCTCACCGCAGCCTCGACCTCCTGGGCT 1470

239 CAAGTGATCCTCCTACTTCAGCTCCCACAAGTAGCTGGGACTGCAGCTAT 190
    |||||||||||||||||||||||||||||||||||||||
1471 CAAGTGATCCTCCTACTTCAGCTCCCACAAGTAGCTGGGACTGCAGCTAT 1520

189 GTGCCATCATGCCTGGCTGATGTTTATATGTTTTGTAGAGACGAAGTTCC 140
    |||||||||||||||||||||||||||||||||||||||
1521 GTGCCATCATGCCTGGCTGATGTTTATATGTTTTGTAGAGACGAGGTTTC 1570

139 ACCATGTTGCCCAGGCTGGTCTTGAACTCCTGAGTTCAAGCGATCCACCT 90
    |||||||||||||||||||||||||||||||||||||||
1571 ACCATGTTGCCCAGGCTGGTCTTGAACTCCTGAGTTCAAGCGATCCACCT 1620

89 GCCTTGGCCTCCCAAAGTGCTGGGATTACTGGTATGAACCACCACGCCCCG 40
    |||||||||||||||||||||||||||||||||||||||
1621 GCCTTGGCCTCCCAAAGTGCTGGGATTACTGGTATGAACCACCACGCCCCG 1670

39 ACAGTAAATATGTTTTGAATGAATAAACTCTCATAAATG 1
    |||||||||||||||||||||||||||||||||||
1671 ACAGTAAATATGTTTTGAATGAATAAACTCTCATAAATG 1709
```

**Figure 8: SEQ ID NO. 2:
amino acid sequence of
human HIF3alpha,
splice variant 1**

Length: 450 aa

1	MRPAAGAARR	PRCCTSWLTR	CPSPAASAPT	WTRPLSCASP	SATCACTASA
51	PQLELIGHSI	FDFIHPCDQE	ELQDALTPQQ	TLRRRKVEAP	TERCFSLRMK
101	STLTSRGRTL	NLKAATWKVL	NCSGHRMAYK	PPAQTSPAGS	PDSEPPLOCL
151	VLICEAIPHP	GSLEPPLGRG	AFLSRHSLDM	KFTYCDDRIA	EVAGYSPDDL
201	IGCSAYEYIH	ALDSDAVSKS	IHTLLSKGQA	VTGQYRFLAR	SGGYLWTQTQ
251	ATVVSGGRGP	QSESIVCVHF	LISQVEETGV	VLSLEQTEQH	SRRPIQRGAP
301	SQKDTNPNGD	SLDTPGPRIL	AFLHPPSLSE	AALAADPRRF	CSPDLRRLIG
351	PILDGASVAA	TPSTPLATRH	PQSPLSADLP	DELPVGTENV	HRLFTSGKDT
401	EAVETDLIDIA	QDPSTPLINL	NEPLGFHFVT	QSGVQWHKHS	SPQPRPPGLK

Fig. 9: SEQ ID NO. 3:
amino acid sequence of
human HIF3alpha,
splice variant 2

Length: 342 aa

1	MALGLQRARS	TTELKKEKSR	DAARSRRSQE	TEVLIYQLAHT	LPFARGVSAH
51	LDKASIMRLT	ISYLRMHRIC	AAGEWNQVGA	GGEPLDACYL	KALEGFVMVL
101	TAEGDMAYLS	ENVSKHLGLS	QLELIGHSIF	DFIHPCDQEE	LQDALTPQQT
151	LSRRKVEAPT	ERCFSLRMKS	TLTSRGRTLN	LKAATWKVLN	CSGHMRAYKP
201	PAQTSPAGSP	DSEPPLQCLV	LICEAIPHPG	SLEPPLGRGA	FLSRHSLDMK
251	FTYCDDRIAE	VAGYSPDDLI	GCSAYEYIHA	LDSDAVSKSI	HTLLSKGQAV
301	TGQYRFLARS	GGYLWTQTQA	TVVSGGRGPQ	SESIVCVHFL	IR

Fig. 10: SEQ ID NO. 4:
amino acid sequence of
human HIF3alpha,
splice variant 3

Length: 632 aa

```
1  MALGLQRARS  TTELKKEKSR  DAARSRRSQE  TEVLYQLAHT  LPFARGVSAH
51  LDKASIMRLT  ISYLRMHRLC  AAGEWNQVGA  GGEPLDACYL  KALEGFVMVL
101 TAEGDMAYLS  ENVSKHLGLS  QLELIGHSIF  DFIHPCDQEE  LQDALTPQQT
151 LSRRKVEAPT  ERCFSLRMKS  TLTSRGRTLN  LKAATWKVLN  CSGHMRAYKP
201 PAQTSPAGSP  DSEPPLQCLV  LICEAIPHPG  SLEPPLGRGA  FLSRHSLDMK
251 FTYCDDRIAE  VAGYSPDDLI  GCSAYEYIHA  LDSDAVSKSI  HTLLSKGQAV
301 TGQYRFLARS  GGYLWTQTQA  TVVSGGRGPQ  SESIVCVHFL  ISQVEETGVV
351 LSLEQTEQHS  RRPIQRGAPS  QKDTPNPGDS  LDTPGPRILA  FLHPPSLSEA
401 ALAADPRRFC  SPDLRRLIGP  ILDGASVAAT  PSTPLATRHP  QSPLSADLPD
451 ELPVGTENVH  RLFTSGKDTE  AVETDLDIAQ  DADALDLEML  APYISMDDDF
501 QLNASEQLPR  AYHRPLGAVP  RPRARSFHGL  SPPALEPSLL  PRWGSDPRLS
551 CSSPSRGDPS  ASSPMAGARK  RTLAQSEDE  DEGVELLGVR  PPKRSPSPEH
601 ENFLLFPLSL  VCWGINGILW  PSLPSWLKPT  VL
```

Fig. 11: SEQ ID NO. 5:
amino acid sequence of
human HIF3alpha,
splice variant 5

Length: 648 aa

```
1  MRLTISYLRM  HRLCAAGEWN  QVGAGGEPLD  ACYLKALEGF  VMVLTAEGDM
51  AYLSENVSKH  LGLSQLELIG  HSIFDFIHPC  DQEELQDALT  PQQTLRRKV
101 EAPTERCFSL  RMKSTLTSRG  RTLNLKAATW  KVLNCSGHRM  AYKPPAQTSP
151 AGSPDSEPP  L  QCLVLI CEAI  PHPGSLEPPL  GRGAFLSRHS  LDMKFTYCDD
201 RIAEVAGYSP  DDLIGCSAYE  YIHALDSDAV  SKSIHTLLSK  GQAVTGQYRF
251 LARSGGYLWT  QTQATVVSGG  RGPQSESIVC  VHFLISQVEE  TGVVLSLEQT
301 EQHSRRPIQR  GAPSQKDTPN  PGDSLDTPGP  RILAFLHPPS  LSEAALAADP
351 RRFCSPDLRR  LLGPILDGAS  VAATPSTPLA  TRHPQSPLSA  DLPDELPVGT
401 ENVHRLFTSG  KDTEAVETDL  DIAQDADALD  LEMLPYISM  DDDFQLNASE
451 QLPRAHYRPL  GAVPRPRARS  FHGLSPPALE  PSLLPRWGSD  PRLSCSSPSR
501 GDPSASSPMA  GARKRTLAQS  SEDEDEGVEL  LGVRPPKRSP  SPEHENFLLF
551 PLSLSFLLTG  GPAPGSLQDP  TELTQFLLSV  LSPILDPYP  LGCAAPGLHA
601 SPFSLPTISV  PQNPLHFPPQ  PSRHALTTLT  PHMFGAPGAP  SPLGWFAI
```

**Fig. 12: SEQ ID NO. 6:
nucleotide sequence of human HIF3alpha cDNA,
splice variant 1**

Length: 1709 bp

```
1  ACTCGTAACT  CGCACCCGGG  TCCTGGCTGC  ACCGCATCCC  CTCCTGCACC
51  CCCTGGATGG  CCCTTCAGCC  AACGGGGGCC  TGGGCGATGG  TCGACCACGG
101 AGCTGCGCAA  GGAAAAGTCC  CGGGATGCGG  CCCGCAGCCG  GCGCAGCCAG
151 GAGACCGAGG  TGCTGTACCA  GCTGGCTCAC  ACGCTGCCCT  TCGCCCGCGG
201 CGTCAGCGCC  CACCTGGACA  AGGCCTCTAT  CATGCGCCTC  ACCATCAGCT
251 ACCTGCGCAT  GCACCGCCTC  TGCGCCGCAG  CTGGAGCTCA  TTGGACACAG
301 CATCTTTGAT  TTCATCCACC  CCTGTGACCA  AGAGGAGCTT  CAGGACGCCC
351 TGACCCCCCA  GCAGACCCTG  TCCAGGAGGA  AGGTGGAGGC  CCCCACGGAG
401 CGGTGCTTCT  CTTTGCAT  GAAGAGTACA  CTCACCAGCC  GCGGGCGCAC
451 CCTCAACCTC  AAGGCGGCCA  CCTGGAAGGT  GCTGAACTGC  TCTGGACATA
501 TGAGGGCCTA  CAAGCCACCT  GCGCAGACTT  CTCAGCTGG  GAGCCCTGAC
551 TCAGAGCCCC  CGCTGCAGTG  CCTGGTGCTC  ATCTGCGAAG  CCATCCCCCA
601 CCCAGGCAGC  CTGGAGCCCC  CACTGGGCCG  AGGGGCCTTC  CTCAGCCGCC
651 ACAGCCTGGA  CATGAAGTTC  ACCTACTGTG  ACGACAGGAT  TGCAGAAAGT
701 GCTGGCTATA  GTCCCGATGA  CCTGATCGGC  TGTTCGCTC  ACGAGTACAT
751 CCACGCGCTG  GACTCCGATG  CGGTCAGCAA  GAGCATCCAC  ACCTTGCTGA
801 GCAAGGGCCA  GGCAGTAACA  GGGCAGTATC  GCTTCCTGGC  CCGGAGTGGT
851 GGCTACCTGT  GGACCCAGAC  CCAGGCCACA  GTGGTGTGAG  GGGGACGGGG
901 CCCCAGTCG  GAGAGTATCG  TCTGTGTCCA  TTTTTTAATC  AGCCAGGTGG
951 AAGAGACCGG  AGTGGTGCTG  TCCCTGGAGC  AAACGGAGCA  AACTCTCGC
1001 AGACCCATTC  AGCGGGGCGC  CCCCTCTCAG  AAGGACACCC  CTAACCTGG
1051 GGACAGCCTT  GACACCCCTG  GCCCCCGGAT  CCTTGCCTTC  CTGCACCCGC
1101 CTTCCCTGAG  CGAGGCTGCC  CTGGCCGCTG  ACCCCCGCCG  TTTCTGCAGC
1151 CTTGACCTCC  GTCGCCTCCT  GGGACCCATC  CTGGATGGGG  CTTAGTAGC
1201 AGCCACTCCC  AGCACCCCGC  TGGCCACACG  GCACCCCAA  AGTCCTCTTT
1251 CGGCTGATCT  CCCAGATGAA  CTACCTGTGG  GCACCGAGAA  TGTGCACAGA
1301 CTCTTCACCT  CCGGGAAAGA  CACTGAGGCA  GTGGAGACAG  ATTTAGATAT
1351 AGCTCAGGAC  CCCAGCACCC  CACTCCTGAA  CCTGAATGAG  CCCCTGGGTT
1401 TTCACCTTGT  CACCCAGTCT  GGAGTGCAGT  GGCACAAACA  CAGCTCACCG
1451 CAGCCTCGAC  CTCCTGGGCT  CAAGTGATCC  TCCTACTTCA  GCTCCACAA
1501 GTAGCTGGGA  CTGCAGCTAT  GTGCCATCAT  GCCTGGCTGA  TGTTTATATG
1551 TTTTGTAGAG  ACGAGGTTC  ACCATGTTGC  CCAGGCTGGT  CTTGAACTCC
1601 TGAGTTCAAG  CGATCCACCT  GCCTTGCCCT  CCCAAAGTGC  TGGGATTACT
1651 GGTATGAACC  ACCACGCCCC  ACAGTAAATA  TGTTTGAAT  GAATAAACTC
1701 TCATAAATG
```

Fig. 13: SEQ ID NO. 7:
nucleotide sequence of
human HIF3alpha cDNA,
splice variant 2

Length: 2239 bp

```

1  TGGGAGCGGC GACTGGCGAG CCATGGCGCT GGGGCTGCAG CCGCAAGGT
51  CGACCACGGA GCTGCGCAAG GAAAAGTCCC GGGATGCGGC CCGCAGCCGG
101 CGCAGCCAGG AGACCGAGGT GCTGTACCAG CTGGCTCACA CGCTGCCCTT
151 CGCCCGCGGC GTCAGCGCCC ACCTGGACAA GGCCCTCTATC ATGCGCCTCA
201 CCATCAGCTA CCTGCGCATG CACCGCCTCT GCGCCGCAGG GGAGTGGAAC
251 CAGGTGGGAG CAGGGGGAGA ACCACTGGAT GCCTGCTACC TGAAGGCCCT
301 GGAGGGCTTC GTCATGGTGC TCACCGCCGA GGGAGACATG GCTTACCTGT
351 CGGAGAATGT CAGCAAACAC CTGGGCCTCA GTCAGCTGGA GCTCATTGGA
401 CACAGCATCT TTGATTTTCAT CCACCCCTGT GACCAAGAGG AGCTTCAGGA
451 CGCCCTGACC CCCCAGCAGA CCCTGTCCAG GAGGAAGGTG GAGGCCCCCA
501 CGGAGCGGTG CTTCTCCTTG CGCATGAAGA GTACGCTCAC CAGCCGCGGG
551 CGCACCCCTCA ACCTCAAGGC GGCCACCTGG AAGGTGCTGA ACTGCTCTGG
601 ACATATGAGG GCCTACAAGC CACCTGCGCA GACTTCTCCA GCTGGGAGCC
651 CTGACTCAGA GCCCCCGCTG CAGTGCCTGG TGCTCATCTG CGAAGCCATC
701 CGCCACCCAG GCAGCCTGGA GCCCCACTG GGCCGAGGGG CCTTCCTCAG
751 CCGCCACAGC CTGGACATGA AGTTCACCTA CTGTGACGAC AGGATTGCAG
801 AAGTGGCTGG CTATAGTCCC GATGACCTGA TCGGCTGTTC CGCCTACGAG
851 TACATCCACG CGCTGGACTC CGACGCGGTC AGCAAGAGCA TCCACACCTT
901 GCTGAGCAAG GGCCAGGCAG TAACAGGGCA GTATCGCTTC CTGGCCCCGA
951 GTGGTGGCTA CCTGTGGACC CAGACCCAGG CCACAGTGGT GTCAGGGGGA
1001 CGGGGCCCCC AGTCGGAGAG TATCGTCTGT GTCCATTTTT TAATCAGGTA
1051 AGCAGGAGGA GGGGCTGGGG TGGCTGTGTG TGGGCCTGAT CTGCATGTGT
1101 GGACAGGTGT GTGTGTGTGT GTGTGTGTGT GTGTGTGTGT GCGTATGAGC
1151 ATGCATGTGT ATCATGCATA AGTGTATGTG AGGGAGTGTG CACGTGTACA
1201 CATATGAGGA ATGTGTGTCA CCATGTAAAT GCCGGTGTGT GTGTCTGCAT
1251 GGACACAGGT ATGTGTATGG GTGTGTAGAC TGTTAATTTT TTTTTTTTTT
1301 TTTTTTTGCG TGAACCTCTG CTTAAGTGGA TTGTTAATTC AAATTAGAAA
1351 GGGGTCTTTA TTTGGCCTGG CATGGTGGCT CATGCCTGTA ATCCTAGCAC
1401 TTTGGGAGGC TGAGGTGGGC GGATTGCCTG AGCTCAGGAG TTCGAAACCA
1451 G CCTGGGCAA CATGACGAAA TGCTGTTTCT GCTAATAATA CCAAAAATTA
1501 GCCGGGTGTG GTGACACATG CCTGTGATCC CAACTACTCG GGAGGCTGAG
1551 GCACGAGAAT CATTAGAACC CGGGTGGTGG AGGCTGCAGT GAGCCGAGAT
1601 TGCCTCAGTG CACTCTGGCC TCGGCAACAG AGCGAGACTC TGTCTCAAAC
1651 AAACAAACAA ACAACAAAAA GGACTCTATA TTCAAGTTAA AATAAGAAGT
1701 GTAACAGAAT CATGGGGTCT TTTTGTCTTT TTAAATTTTG ATGTGGCTCA
1751 CGCCTGTAAA TCCAAGGTG TTGGGATTAC AGGCGTGAGC CACTGCACCC
1801 GGCCCATGTT GTGGTTTATA TCAGTAGTTC CTTTGTAATC AGTGAACAGT
1851 ATTCCATGGT ATGAATAGAG CACAGTTTTT TTTTTTATCC ATTCACCAGT
1901 TAGAAGACAT TGGGCTGTTT CCAAGTTTGG GTGATTACAA AAAACAGCTA
1951 CTGTAAACAT TCTCATACAA GATTTTATGA GATCACATGT TTTCAATTCT
2001 CTTGGGTAAA CAGCTAGGAT TGGAATGGAT GGGTTATATA GTAAGTGTAT
2051 ATTTAATCTA AGAAACTGCC ATGGCTGGGC ACAGTGGCTC ACGCCTGTAA

```

2101 TCCCAGTACT TTGGGAAGCC AAGGAAGGAG GATGACTAGA GCCTCTGAGG
2151 TGAAGACCAG CCTGGGCAAA GTGGTTAAGA CTCAACCGCA AAAAAAGAAA
2201 AACAGAAAAC CTGAAAACAA ACCAAAAAAA AAAAAAAA

Figure 14: SEQ ID NO. 8:
nucleotide sequence of
human HIF3alpha cDNA,
splice variant 3

Length: 2082 bp

```
1  GACTGGCGAG CCATGGCGCT GGGGCTGCAG CGCGCAAGGT CGACCACGGA
51  GCTGCGCAAG GAAAAGTCCC GGGATGCGGC CCGCAGCCGG CGCAGCCAGG
101 AGACCGAGGT GCTGTACCAG CTGGCTCACA CGCTGCCCTT CGCCCGCGGC
151 GTCAGCGCCC ACCTGGACAA GGCTCTATC ATGCGCCTCA CCATCAGCTA
201 CCTGCGCATG CACCGCCTCT GCGCCGCAGG GGAGTGGAAC CAGGTGGGAG
251 CAGGGGGAGA ACCACTGGAT GCCTGCTACC TGAAGGCCCT GGAGGGCTTC
301 GTCATGGTGC TCACCGCCGA GGGAGACATG GCTTACCTGT CGGAGAATGT
351 CAGCAAACAC CTGGGCCTCA GTCAGCTGGA GCTCATTGGA CACAGCATCT
401 TTGATTTTCAT CCACCCCTGT GACCAAGAGG AGCTTCAGGA CGCCCTGACC
451 CCCAGCAGA CCCTGTCCAG GAGGAAGGTG GAGGCCCCCA CGGAGCGGTG
501 CTTCTCCTTG CGCATGAAGA GTACGCTCAC CAGCCGCGGG CGCACCTCA
551 ACCTCAAGGC GGCCACCTGG AAGGTGCTGA ACTGCTCTGG ACATATGAGG
601 GCCTACAAGC CACCTGCGCA GACTTCTCCA GCTGGGAGCC CTGACTCAGA
651 GCCCCCGCTG CAGTGCCTGG TGCTCATCTG CGAAGCCATC CCCCACCCAG
701 GCAGCCTGGA GCCCCACTG GGCCGAGGGG CCTTCCTCAG CCGCCACAGC
751 CTGGACATGA AGTTCACCTA CTGTGACGAC AGGATTGCAG AAGTGGCTGG
801 CTATAGTCCC GATGACCTGA TCGGCTGTTC CGCCTACGAG TACATCCACG
851 CGCTGGACTC CGACGCGGTC AGCAAGAGCA TCCACACCTT GCTGAGCAAG
901 GGCCAGGCAG TAACAGGGCA GTATCGCTTC CTGGCCCGGA GTGGTGGCTA
951 CCTGTGGACC CAGACCAGG CCACAGTGGT GTCAGGGGGA CGGGGCCCCC
1001 AGTCGGAGAG TATCGTCTGT GTCCATTTTT TAATCAGCCA GGTGGAAGAG
1051 ACCGGAGTGG TGCTGTCCCT GGAGCAAACG GAGCAACACT CTCGCAGACC
1101 CATTCAGCGG GGCGCCCCCT CTCAGAAGGA CACCCTAAC CCTGGGGACA
1151 GCCTTGACAC CCCTGGCCCC CGGATCCTTG CCTTCCTGCA CCGCCTTCC
1201 CTGAGCGAGG CTGCCCTGGC CGCTGACCCC CGCCGTTTCT GCAGCCCTGA
1251 CCTCCGTCGC CTCTGGGAC CCATCCTGGA TGGGGCTTCA GTAGCAGCCA
1301 CTCCAGCAC CCGCTGGCC ACACGGCACC CCCAAAGTCC TCTTTCGGCT
1351 GATCTCCCAG ATGAACTACC TGTGGGCACC GAGAATGTGC ACAGACTCTT
1401 CACCTCCGGG AAAGACACTG AGGCAGTGGA GACAGATTTA GATATAGCTC
1451 AGGATGCTGA TGCTCTGGAT TTGGAGATGC TGGCCCCCTA CATCTCCATG
1501 GATGATGACT TCCAGCTCAA CGCCAGCGAG CAGCTACCCA GGGCCTACCA
1551 CAGACCTCTG GGGGCTGTCC CCCGGCCCCG TGCTCGGAGC TTCCATGGCC
1601 TGTACCTCC AGCCCTTGAG CCCTCCCTGC TACCCCGCTG GGGGAGTGAC
1651 CCCC GGCTGA GCTGCTCCAG CCCTTCCAGA GGGGACCCCT CAGCATCCTC
1701 TCCCATGGCT GGGGCTCGGA AGAGGACCCT GGCCAGAGC TCAGAGGACG
1751 AGGACGAGGG AGTGGAGCTG CTGGGAGTGA GACCTCCCAA AAGGTCCCCC
1801 AGCCCAGAAC ACGAAAACCT TCTGCTCTTT CCTCTCAGCC TGGTGTGTTG
1851 GGGGATTAAT GGGATTCTCT GGCCCTCATT ACCTAGCTGG CTTAAACCTA
1901 CTGTTTTATA GATAGGAAAC CAGAGAGGGG CAGGGGCTGG TTGAGGGTCA
1951 TACAGAAAGT CAGTGGGCCA GCTGAGACTA AAGCCTGATC TTCTAGTTTC
2001 ACTAATGGGT ATTAAAAACC TCTGCAGTGA ACTGAGATTG CGCCACTGCA
2051 CCCAGCATG AGCGACAGAA TGGGACCTTG TC
```

**Figure 15: SEQ ID NO. 9:
nucleotide sequence of
human HIF3alpha cDNA,
splice variant 5**

Length: 2595 bp

```

1  AACTCGCACC CGGGTCCTGG CTGCACCGCA TCCCCTCCTG CACCCCCTGG
51 ATGGCCCTTC AGCCAACGGG GGCCTGGGCG ATGGTCGACC ACGGAGCTGC
101 GCAAGGAAAA GTCCCAGGAT GCGGCCCGCA GCCGGCGCAG CCAGGAGACC
151 GAGGTGCTGT ACCAGCTGGC TCACACGCTG CCCTTCGCCC GCGGCGTCAG
201 CGCCACCTG GACAAGGCCT CTATCATGCG CCTCACCATC AGCTACCTGC
251 GCATGCACCG CCTCTGCGCC GCAGGGGAGT GGAACCAGGT GGGAGCAGGG
301 GGAGAACCAC TGGATGCCTG CTACC'TGAAG GCCCTGGAGG GCTTCGTCAT
351 GGTGCTCACC GCCGAGGGAG ACATGGCTTA CCTGTGCGAG AATGTCAGCA
401 AACACCTGGG CCTCAGTCAG CTGGAGCTCA TTGGACACAG CATCTTTGAT
451 TTCATCCACC CCTGTGACCA AGAGGAGCTT CAGGACGCCC TGACCCCCCA
501 GCAGACCCTG TCCAGGAGGA AGGTGGAGGC CCCCACGGAG CGGTGCTTCT
551 CCTTGCGCAT GAAGAGTACG CTCACCAGCC GCGGGCGCAC CCTCAACCTC
601 AAGGCGGCCA CCTGGAAGGT GCTGAAGTGC TCTGGACATA TGAGGGCCTA
651 CAAGCCACCT GCGCAGACTT CTCCAGCTGG GAGCCCTGAC TCAGAGCCCC
701 CGCTGCAGTG CCTGGTGCTC ATCTGCGAAG CCATCCCCCA CCCAGGCAGC
751 CTGGAGCCCC CACTGGGCCG AGGGGCCTTC CTCAGCCGCC ACAGCCTGGA
801 CATGAAGTTC ACCTACTGTG AGACAGGAT TGCAGAAAGT GCTGGCTATA
851 GTCCCGATGA CCTGATCGGC TGTTCGCTT ACGAGTACAT CCACGCGCTG
901 GACTCCGACG CGGTGAGCAA GAGCATCCAC ACCTTGCTGA GCAAGGGCCA
951 GGCAGTAACA GGGCAGTATC GCTTCCTGGC CCGGAGTGGT GGCTACCTGT
1001 GGACCCAGAC CCAGGCCACA GTGGTGTGAG GGGGACGGGG CCCCAGTCG
1051 GAGAGTATCG TCTGTGTCCA TTTT'TTAATC AGCCAGGTGG AAGAGACCGG
1101 AGTGGTGCTG TCCCTGGAGC AAACGGAGCA AACTCTCGC AGACCCATT
1151 AGCGGGGGCG CCCCTCTCAG AAGGACACCC CTAACCTGG GGACAGCCTT
1201 GACACCCCTG GCCCCCGGAT CCTTGCCCTT CTGCACCCGC CTTCCTTGAG
1251 CGAGGCTGCC CTGGCCGCTG ACCCCCGCCG TTTCTGCAGC CCTGACCTCC
1301 GTCGCCTCCT GGGACCCATC CTGGATGGGG CTTCAGTAGC AGCCACTCCC
1351 AGCACCCCGC TGGCCACACG GCACCCCAA AGTCCTCTTT CGGCTGATCT
1401 CCCAGATGAA CTACCTGTGG GCACCGAGAA TGTGCACAGA CTCTTCACCT
1451 CCGGGAAAGA CACTGAGGCA GTGGAGACAG ATTTAGATAT AGCTCAGGAT
1501 GCTGATGCTC TGGATTTGGA GATGCTGGCC CCCTACATCT CCATGGATGA
1551 TGACTTCCAG CTCAACGCCA GCGAGCAGCT ACCCAGGGCC TACCACAGAC
1601 CTCTGGGGGC TGTCCCCCGG CCCCCTGCTC GGAGCTTCCA TGGCCTGTCA
1651 CCTCCAGCCC TTGAGCCCTC CTGCTACCC CGCTGGGGGA GTGACCCCCG
1701 GCTGAGCTGC TCCAGCCCTT CCAGAGGGGA CCCCTCAGCA TCCTCTCCCA
1751 TGGCTGGGGC TCGGAAGAGG ACCCTGGCCC AGAGCTCAGA GGACGAGGAC
1801 GAGGGAGTGG AGCTGCTGGG AGTGAGACCT CCCAAAAGGT CCCCAGCCC
1851 AGAACACGAA AACTTTCTGC TCTTCTCTCT CAGCCTGAGT TTCTTCTGA
1901 CAGGAGGACC AGCCCCAGGG AGCCTGCAGG ACCCACTGA ACTTACCAA
1951 TTCCTTCTTT CAGTCTTAAG TTTTCCATT CTAGACCCCT ACCCTTAGG
2001 CTGTGCTGCT CCTGGACTTC ATGCCTCTCC ATTCTCATTG CCTACATCT
2051 CTGTGCCCCA GAACCCCTC CACTtCCAC CCCAGCCCTC CAGACATGCA
2101 CTTACCTTGA CTTTACCCA CATGTTTGGG GCACCTGGGG CTCCCTCACC

```



```
2151 CCTTGGGTGG TTTGCAATCT GAAGACTTCT CCAGCCACAC AGGCACATGC
2201 ACAGGCACGG TGCTGTCTGC ATATTGCCAG GTGGGGAGAG AAGCCAGGAC
2251 CCCTCAGCTG TCTGCCACCA TCTATGTGCC TCCCTTACCC CCCAGCTTTC
2301 TTTCTACAGA TGGTGCTACT CTTGGTCTCC CACAGGAAAA GGCCTCCCCC
2351 CTTCTTAGCC CCATTTACCC CGTTTGTGGA AGGCACTGCT CGCTCTGTTT
2401 TGTCAGAGAG TGGCCTATCC AGATTGGTGC TATGGGGGGG TCTGACCCCT
2451 CCCTCCTCCC TCTGGAGGTG ATGTGGGCCC TCAATGGAGG GAATTGTGCT
2501 GGGCTAGGGA AAGGGGAGGG ACTAGACTGG CCACACTGGC TCTGAAACTC
2551 ACCAAtCTCT ATACACCATA AAGACCTCAC CTTGGTAGGC ACCAG
```

Fig. 16: SEQ ID NO. 10:
nucleotide sequence of human
HIF3alpha splice variant 1
coding sequence

Length: 1353 bp

```

1  ATGCGGCCCG CAGCCGGCGC AGCCAGGAGA CCGAGGTGCT GTACCAGCTG
51  GCTCACACGC TGCCCTTCGC CCGCGGCGTC AGCGCCCACC TGGACAAGGC
101 CTCTATCATG CGCCTCACCA TCAGCTACCT GCGCATGCAC CGCCTCTGCG
151 CCGCAGCTGG AGCTCATTGG ACACAGCATC TTTGATTTCA TCCACCCCTG
201 TGACCAAGAG GAGCTTCAGG ACGCCCTGAC CCCCAGCAG ACCCTGTCCA
251 GGAGGAAGGT GGAGGCCCCC ACGGAGCGGT GCTTCTCCTT GCGCATGAAG
301 AGTACACTCA CCAGCCGCGG GCGCACCTTC AACCTCAAGG CGGCCACCTG
351 GAAGGTGCTG AACTGCTCTG GACATATGAG GGCCTACAAG CCACCTGCGC
401 AGACTTCTCC AGCTGGGAGC CTTGACTCAG AGCCCCCGCT GCAGTGCTTG
451 GTGCTCATCT GCGAAGCCAT CCCCACCCA GGCAGCCTGG AGCCCCCACT
501 GGGCCGAGGG GCCTTCCTCA GCCGCCACAG CCTGGACATG AAGTTCACCT
551 ACTGTGACGA CAGGATTGCA GAAGTGGCTG GCTATAGTCC CGATGACCTG
601 ATCGGCTGTT CCGCCTACGA GTACATCCAC GCGCTGGACT CCGATGCGGT
651 CAGCAAGAGC ATCCACACCT TGCTGAGCAA GGGCCAGGCA GTAACAGGGC
701 AGTATCGCTT CCTGGCCCGG AGTGGTGGCT ACCTGTGGAC CCAGACCCAG
751 GCCACAGTGG TGTGAGGGGG ACGGGGCCCC CAGTCGGAGA GTATCGTCTG
801 TGTCCATTTT TTAATCAGCC AGGTGGAAGA GACCGGAGTG GTGCTGTCCC
851 TGGAGCAAAC GGAGCAACAC TCTCGCAGAC CCATTCAGCG GGGCGCCCCC
901 TCTCAGAAGG ACACCCCTAA CCCTGGGGAC AGCCTTGACA CCCCTGGCCC
951 CCGGATCCTT GCCTTCCTGC ACCCGCCTTC CCTGAGCGAG GCTGCCCTGG
1001 CCGCTGACCC CCGCCGTTTC TGCAGCCCTG ACCTCCGTCG CCTCCTGGGA
1051 CCCATCCTGG ATGGGGCTTC AGTAGCAGCC ACTCCCAGCA CCCCCTGGC
1101 CACACGGCAC CCCCAGAGTC CTCTTTCGGC TGATCTCCCA GATGAACACT
1151 CTGTGGGCAC CGAGAATGTG CACAGACTCT TCACCTCCGG GAAAGACACT
1201 GAGGCAGTGG AGACAGATTG AGATATAGCT CAGGACCCCA GCACCCCACT
1251 CCTGAACCTG AATGAGCCCC TGGGTTTTCA CTTTGTCACC CAGTCTGGAG
1301 TGCAGTGGCA CAAACACAGC TCACCGCAGC CTCGACCTCC TGGGCTCAAG
1351 TGA

```

Fig. 17: SEQ ID NO. 11:
nucleotide sequence of human
HIF3alpha splice variant 2
coding sequence

Length: 1029 bp

```

1   ATGGCGCTGG GGCTGCAGCG CGCAAGGTCG ACCACGGAGC TGC GCAAGGA
51  AAAGTCCCGG GATGCGGCCG GCAGCCGGCG CAGCCAGGAG ACCGAGGTGC
101 TGTACCAGCT GGCTCACACG CTGCCCTTCG CCCGCGGCGT CAGCGCCCAC
151 CTGGACAAGG CCTCTATCAT GCGCCTCACC ATCAGCTACC TGC GCATGCA
201 CCGCCTCTGC GCCGCAGGGG AGTGGAACCA GGTGGGAGCA GGGGGAGAAC
251 CACTGGATGC CTGCTACCTG AAGGCCCTGG AGGGCTTCGT CATGGTGCTC
301 ACCGCCGAGG GAGACATGGC TTACCTGTCG GAGAATGTCA GCAAACACCT
351 GGGCCTCAGT CAGCTGGAGC TCATTGGACA CAGCATCTTT GATTTTCATCC
401 ACCCCTGTGA CCAAGAGGAG CTCAGGACG CCCTGACCCC CCAGCAGACC
451 CTGTCCAGGA GGAAGGTGGA GGCCCCCACG GAGCGGTGCT TCTCCTTGCG
501 CATGAAGAGT ACGCTACCA GCCGCGGGCG CACCCCTCAAC CTCAAGGCGG
551 CCACCTGGAA GGTGCTGAAC TGCTCTGGAC ATATGAGGGC CTACAAGCCA
601 CCTGCGCAGA CTTCTCCAGC TGGGAGCCCT GACTCAGAGC CCCCCTGCA
651 GTGCCTGGTG CTCATCTGCG AAGCCATCCC CCACCCAGGC AGCCTGGAGC
701 CCCCACTGGG CCGAGGGGCC TTCCTCAGCC GCCACAGCCT GGACATGAAG
751 TTCACCTACT GTGACGACAG GATTGCAGAA GTGGCTGGCT ATAGTCCCGA
801 TGACCTGATC GGCTGTTCCG CCTACGAGTA CATCCACGCG CTGGACTCCG
851 ACGCGGTCAG CAAGAGCATC CACACCTTGC TGAGCAAGGG CCAGGCAGTA
901 ACAGGGCAGT ATCGCTTCCT GGCCCGGAGT GGTGGCTACC TGTGGACCCA
951 GACCCAGGCC ACAGTGGTGT CAGGGGGACG GGGCCCCCAG TCGGAGAGTA
1001 TCGTCTGTGT CCATTTTTTA ATCAGGTAA

```

Fig. 18: SEQ ID NO. 12:
nucleotide sequence of human
HIF3alpha splice variant 3
coding sequence

Length: 1899 bp

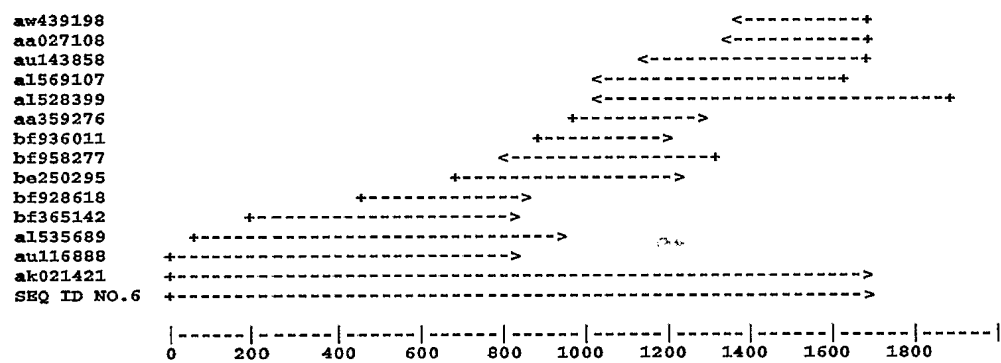
```
1  ATGGCGCTGG  GGCTGCAGCG  CGCAAGGTCG  ACCACGGAGC  TGC GCAAGGA
51  AAAGTCCCGG  GATGCGGCCC  GCAGCCGGCG  CAGCCAGGAG  ACCGAGGTGC
101  TGTACCAGCT  GGCTCACACG  CTGCCCTTCG  CCCGCGGCGT  CAGCGCCAC
151  CTGGACAAGG  CCTCTATCAT  GCGCCTCACC  ATCAGCTACC  TGC GCATGCA
201  CCGCCTCTGC  GCCGCAGGGG  AGTGGAACCA  GGTGGGAGCA  GGGGGAGAAC
251  CACTGGATGC  CTGCTACCTG  AAGGCCCTGG  AGGGCTTCGT  CATGGTGCTC
301  ACCGCCGAGG  GAGACATGGC  TTACCTGTCT  GAGAAATGTC  GCAAACACCT
351  GGGCCTCAGT  CAGCTGGAGC  TCATTGGACA  CAGCATCTTT  GATTTTCATCC
401  ACCCCTGTGA  CCAAGAGGAG  CTTCAGGACG  CCCTGACCCC  CCAGCAGACC
451  CTGTCCAGGA  GGAAGGTGGA  GGCCCCCAGC  GAGCGGTGCT  TCTCCTTGCG
501  CATGAAGAGT  ACGCTCACCA  GCCGCGGGCG  CACCCTCAAC  CTCAAGGCGG
551  CCACCTGGAA  GGTGCTGAAC  TGCTCTGGAC  ATATGAGGGC  CTACAAGCCA
601  CCTGCGCAGA  CTTCTCCAGC  TGGGAGCCCT  GACTCAGAGC  CCCCCTGCA
651  GTGCCTGGTG  CTCATCTGCG  AAGCCATCCC  CCACCCAGGC  AGCCTGGAGC
701  CCCCCTGGG  CCGAGGGGCG  TTCCTCAGCC  GCCACAGCCT  GGACATGAAG
751  TTCACCTACT  GTGACGACAG  GATTGCAGAA  GTGGCTGGCT  ATAGTCCCGA
801  TGACCTGATC  GGCTGTTCCG  CCTACGAGTA  CATCCACGCG  CTGGACTCCG
851  ACGCGGTCAG  CAAGAGCATC  CACACCTTGC  TGAGCAAGGG  CCAGGCAGTA
901  ACAGGGCAGT  ATCGCTTCCT  GGCCCGGAGT  GGTGGCTACC  TGTGGACCCA
951  GACCCAGGCC  ACAGTGGTGT  CAGGGGGACG  GGGCCCCCAG  TCGGAGAGTA
1001  TCGTCTGTGT  CCATTTTTTA  ATCAGCCAGG  TGGAAGAGAC  CGGAGTGGTG
1051  CTGTCCCTGG  AGCAAACGGA  GCAACACTCT  CGCAGACCCA  TTCAGCGGGG
1101  CGCCCCCTCT  CAGAAGGACA  CCCCTAACCC  TGGGGACAGC  CTTGACACCC
1151  CTGGCCCCCG  GATCCTTGCC  TTCCTGCACC  CGCCTTCCCT  GAGCGAGGCT
1201  GCCCTGGCCG  CTGACCCCCG  CCGTTTCTGC  AGCCCTGACC  TCCGTGCGCT
1251  CCTGGGACCC  ATCCTGGATG  GGGCTTCAGT  AGCAGCCACT  CCCAGCACCC
1301  CGCTGGCCAC  ACGGCACCCC  CAAAGTCCTC  TTTCGGCTGA  TCTCCAGAT
1351  GAACTACCTG  TGGGCACCGA  GAATGTGCAC  AGACTCTTCA  CCTCCGGGAA
1401  AGACACTGAG  GCAGTGGAGA  CAGATTTAGA  TATAGCTCAG  GATGCTGATG
1451  CTCTGGATTT  GGAGATGCTG  GCCCCCTACA  TCTCCATGGA  TGATGACTTC
1501  CAGCTCAACG  CCAGCGAGCA  GCTACCCAGG  GCCTACCACA  GACCTCTGGG
1551  GGCTGTCCCC  CGGCCCCGTG  CTCGGAGCTT  CCATGGCCTG  TCACCTCCAG
1601  CCCTTGAGCC  CTCCTGCTA  CCCCCTGGG  GGAGTGACCC  CCGGCTGAGC
1651  TGCTCCAGCC  CTTCCAGAGG  GGACCCCTCA  GCATCCTCTC  CCATGGCTGG
1701  GGCTCGGAAG  AGGACCCTGG  CCCAGAGCTC  AGAGGACGAG  GACGAGGGAG
1751  TGGAGCTGCT  GGGAGTGAGA  CCTCCCAAAA  GGTCCCCCAG  CCCAGAACAC
1801  GAAACTTTTC  TGCTCTTTCC  TCTCAGCCTG  GTGTGTTGGG  GGATTAATGG
1851  GATTCTCTGG  CCCTCATTAC  CTAGCTGGCT  TAAACCTACT  GTTTTATAG
```

Fig. 19: SEQ ID NO. 13:
nucleotide sequence of human
HIF3alpha splice variant 5
coding sequence

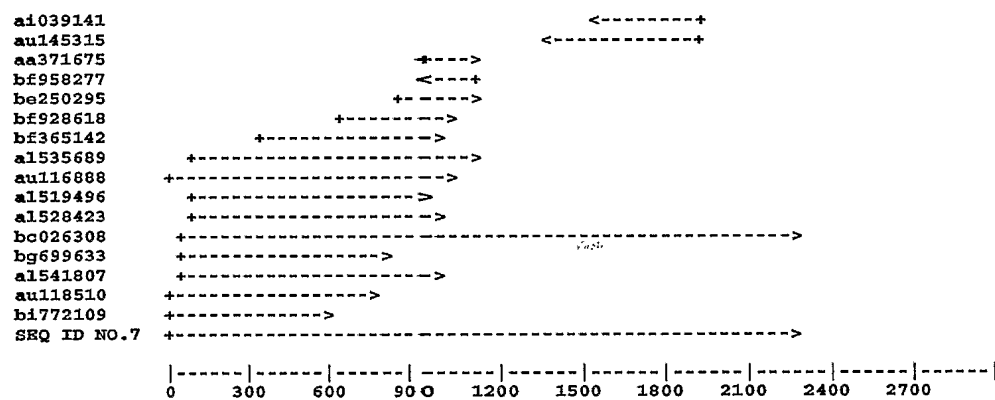
Length: 1947 bp

```
1  ATGCGCCTCA CCATCAGCTA CCTGCGCATG CACCGCCTCT GCGCCGCAGG
51  GGAGTGGAAC CAGGTGGGAG CAGGGGGAGA ACCACTGGAT GCCTGCTACC
101  TGAAGGCCCT GGAGGGCTTC GTCATGGTGC TCACCGCCGA GGGAGACATG
151  GCTTACCTGT CGGAGAATGT CAGCAAACAC CTGGGCCCTCA GTCAGCTGGA
201  GCTCATTTGA CACAGCATCT TTGATTTTCA CCACCCCTGT GACCAAGAGG
251  AGCTTCAGGA CGCCCTGACC CCCCAGCAGA CCCTGTCCAG GAGGAAGGTG
301  GAGGCCCCCA CGGAGCGGTG CTTCTCCTTG CGCATGAAGA GTACGCTCAC
351  CAGCCGCGGG CGCACCTCA ACCTCAAGGC GGCCACCTGG AAGGTGCTGA
401  ACTGCTCTGG ACATATGAGG GCCTACAAGC CACCTGCGCA GACTTCTCCA
451  GCTGGGAGCC CTGACTCAGA GCCCCGCTG CAGTGCCTGG TGCTCATCTG
501  CGAAGCCATC CCCCACCCAG GCAGCCTGGA GCCCCACTG GCGCGAGGGG
551  CCTTCCTCAG CCGCCACAGC CTGGACATGA AGTTCACCTA CTGTGACGAC
601  AGGATTGCAG AAGTGGCTGG CTATAGTCCC GATGACCTGA TCGGCTGTTC
651  CGCCTACGAG TACATCCACG CGCTGGACTC CGACGCGGTC AGCAAGAGCA
701  TCCACACCTT GCTGAGCAAG GGCCAGGCAG TAACAGGGCA GTATCGCTTC
751  CTGGCCCGGA GTGGTGGCTA CCTGTGGACC CAGACCCAGG CCACAGTGGT
801  GTCAGGGGGA CGGGGCCCCC AGTCGGAGAG TATCGTCTGT GTCCATTTT
851  TAATCAGCCA GGTGGAAGAG ACCGGAGTGG TGCTGTCCCT GGAGCAAACG
901  GAGCAACACT CTCGCAGACC CATTAGCGG GGCGCCCCCT CTCAGAAGGA
951  CACCCCTAAC CCTGGGGACA GCCTTGACAC CCCTGGCCCC CGGATCCTTG
1001  CCTTCCTGCA CCGCCTTCC CTGAGCGAGG CTGCCCTGGC CGCTGACCCC
1051  CGCCGTTTCT GCAGCCCTGA CCTCCGTCGC CTCTGGGAC CCATCCTGGA
1101  TGGGGCTTCA GTAGCAGCCA CTCCCAGCAC CCCGCTGGCC ACACGGCACC
1151  CCCAAAGTCC TCTTTCGGCT GATCTCCAG ATGAACTACC TGTGGGCACC
1201  GAGAATGTGC ACAGACTCTT CACCTCCGGG AAAGACACTG AGGCAGTGGA
1251  GACAGATTTA GATATAGCTC AGGATGCTGA TGCTCTGGAT TTGGAGATGC
1301  TGGCCCCCTA CATCTCCATG GATGATGACT TCCAGCTCAA CGCCAGCGAG
1351  CAGCTACCCA GGGCCTACCA CAGACCTCTG GGGGCTGTCC CCCGGCCCCG
1401  TGCTCGGAGC TTCCATGGCC TGTACCTCC AGCCCTTGAG CCCTCCCTGC
1451  TACCCCGCTG GGGGAGTGAC CCCC GGCTGA GCTGCTCCAG CCCTTCCAGA
1501  GGGGACCCCT CAGCATCCTC TCCCATGGCT GGGGCTCGGA AGAGGACCCT
1551  GGCCAGAGC TCAGAGGACG AGGACGAGGG AGTGGAGCTG CTGGGAGTGA
1601  GACCTCCCAA AAGGTCCCCC AGCCCAGAAC ACGAAAACCT TCTGCTCTTT
1651  CCTCTCAGCC TGAGTTTCTT TCTGACAGGA GGACCAGCCC CAGGGAGCCT
1701  GCAGGACCCC ACTGAACTTA CCCAATTCCT TCTTTCAGTC TTAAGTTTTC
1751  CCATTCTAGA CCCCTACCCT CTAGGCTGTG CTGCTCCTGG ACTTCATGCC
1801  TCTCCATTCT CATTCGCTAC AATCTCTGTG CCCCAGAAC CCCTCCACTT
1851  CCCACCCAG CCCTCCAGAC ATGCACCTAC CTTGACTTTA CCCACATGT
1901  TTGGGGCACC TGGGGCTCCC TCACCCCTTG GGTGGTTTGC AATCTGA
```

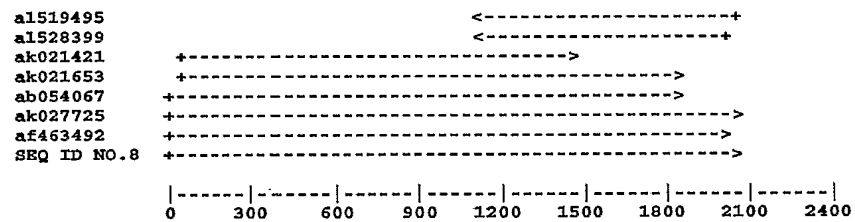
**Fig. 20: Schematic assembly of SEQ ID NO. 6,
with human ESTs and
human mRNA (AK021421)**



**Fig. 21: Schematic assembly of SEQ ID NO. 7,
with human ESTs and
human mRNA (BCO26308)**



**Fig. 22: Schematic assembly of SEQ ID NO. 8,
with human ESTs and
human mRNAs (AK021421, AK021653,
AK027725, AB054067, AF463492)**



**Fig. 23: Schematic assembly of SEQ ID NO. 9,
with human ESTs and
human mRNA (AKO 21653)**

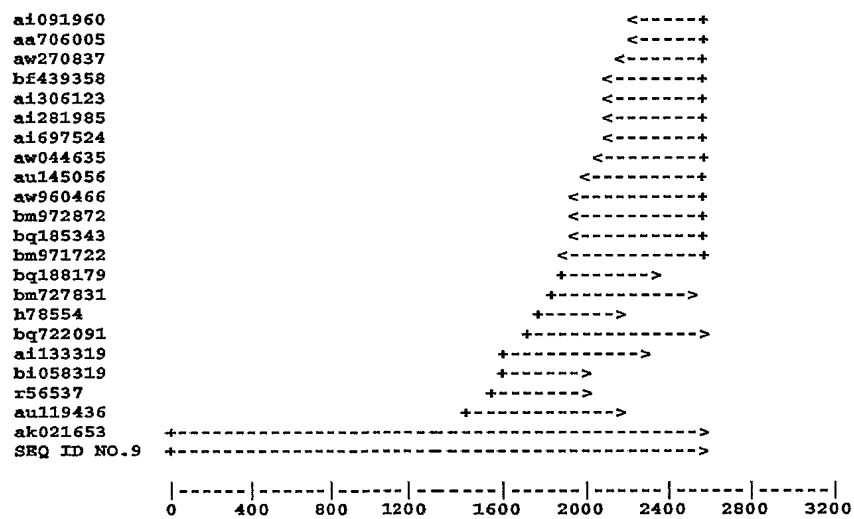


Fig. 24: Identification of differentially expressed genes by microarray hybridization

Biochip	Type of probe	Used probes (Cy5-/Cy3-labeled)	Ratio fluorescence intensity: temporal / frontal cortex
1	C	PT _{SSH(2)} / PF _{SSH(1)}	1.40
2	B	PT / PF	1.19
3	A	PT / PF	0.65
4	C	PT _{SSH(4)} / CT _{SSH(3)}	0.65
7	B	CF / PF	0.95

Fig. 25 :

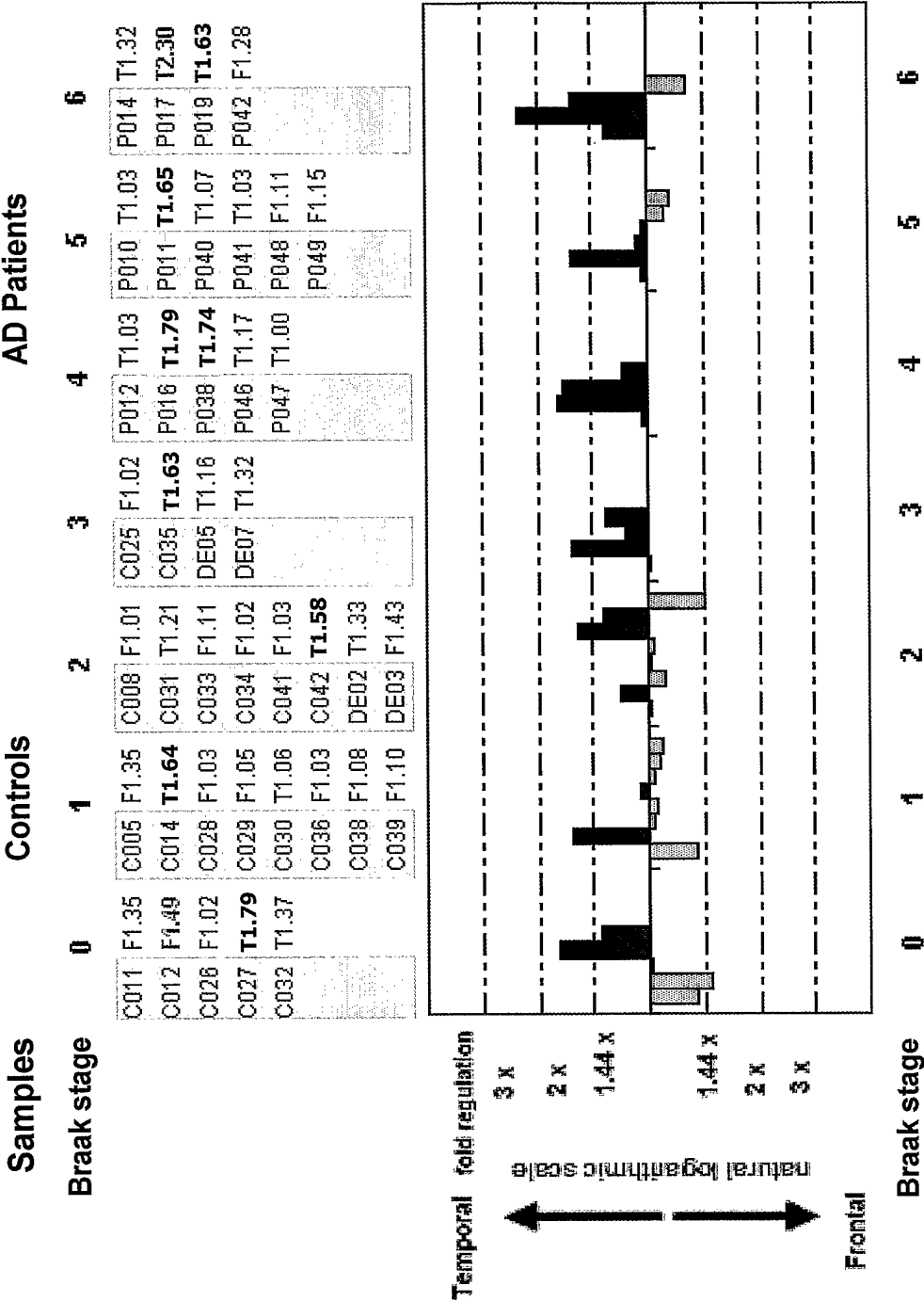


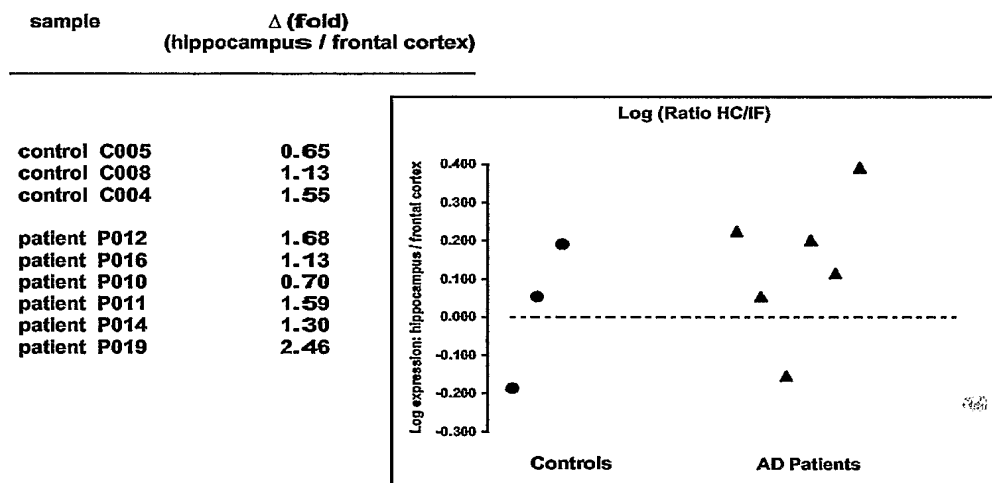
Fig. 26 :

Fig. 27 :

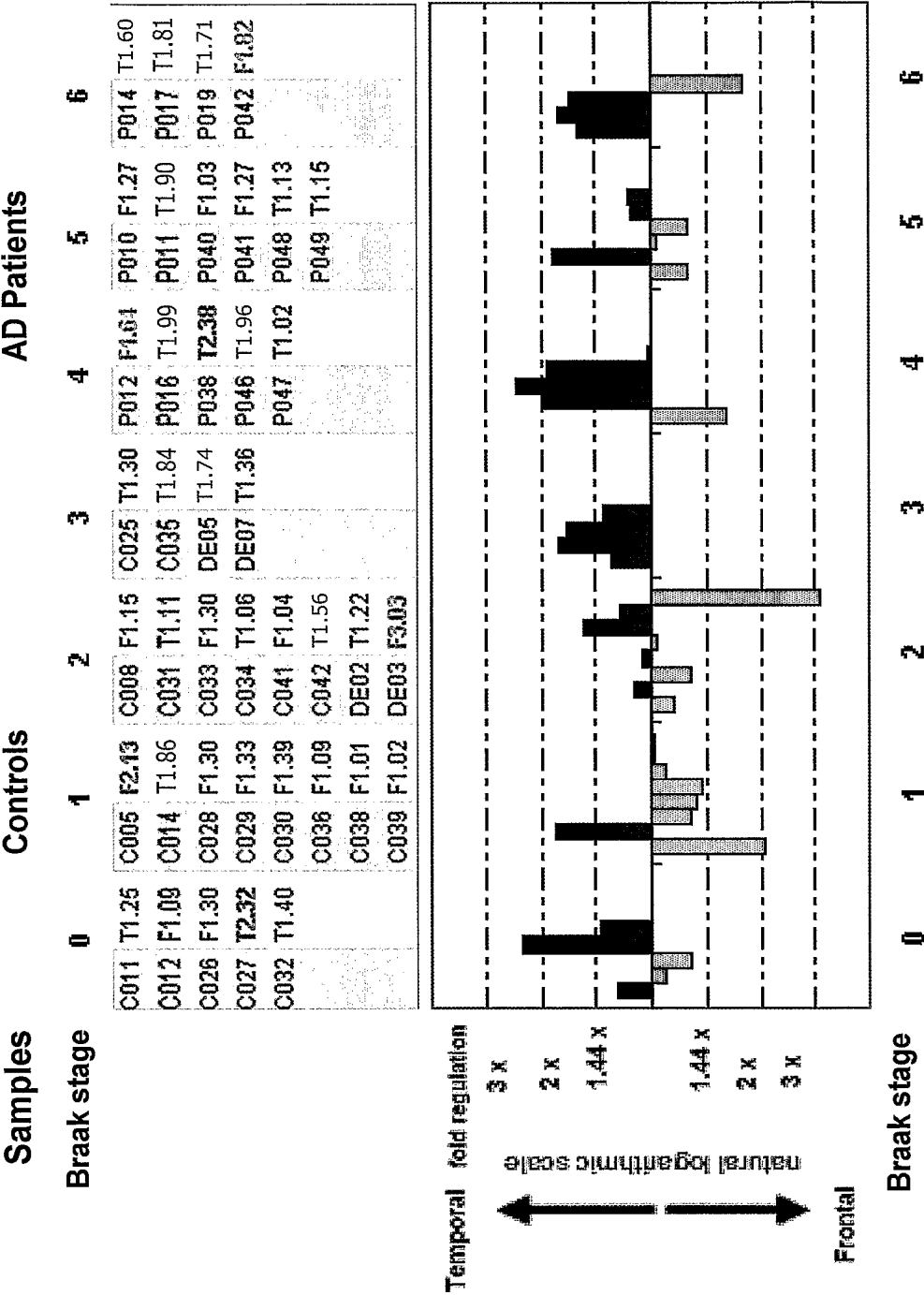


Fig. 28::

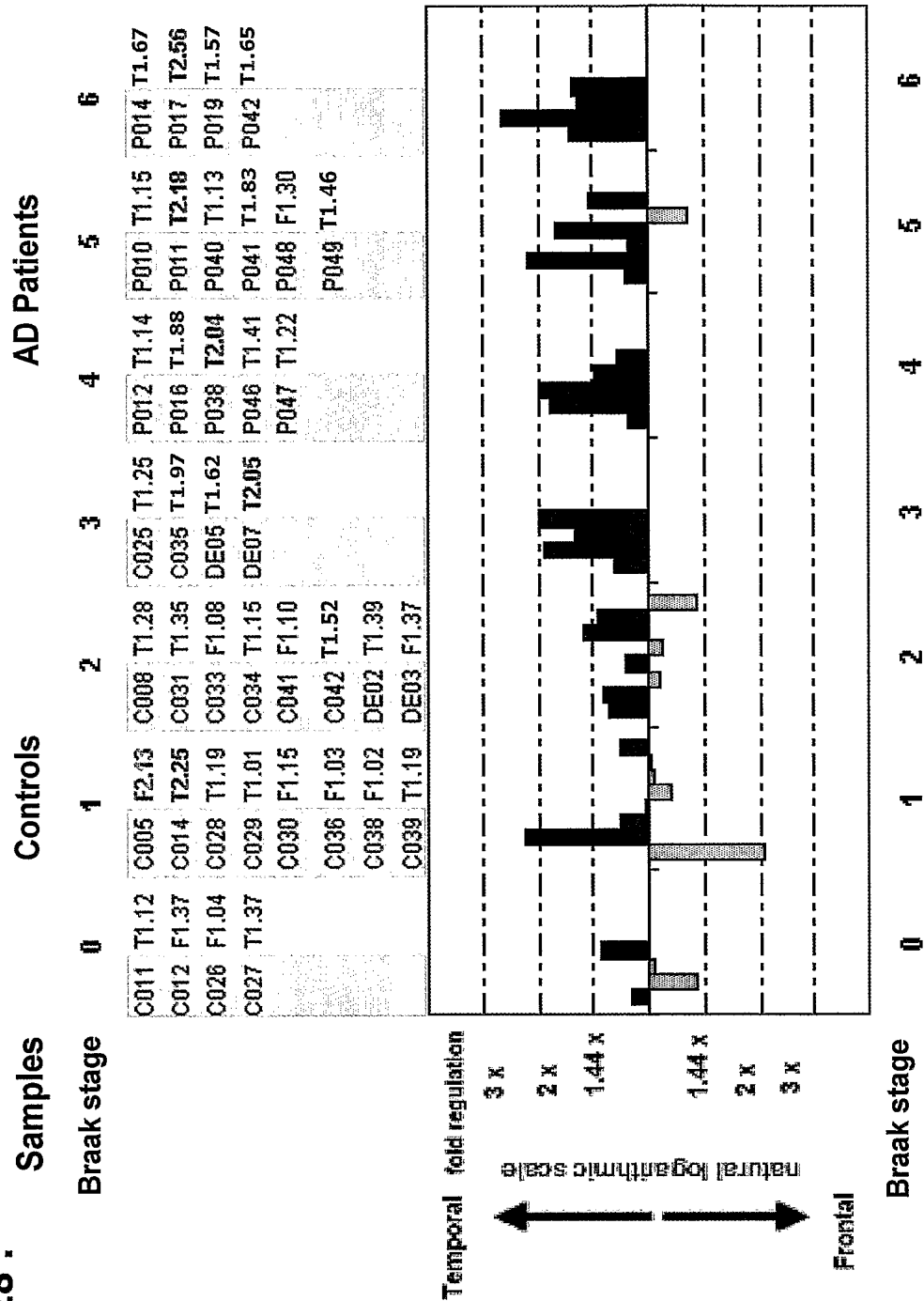


Fig. 29 :

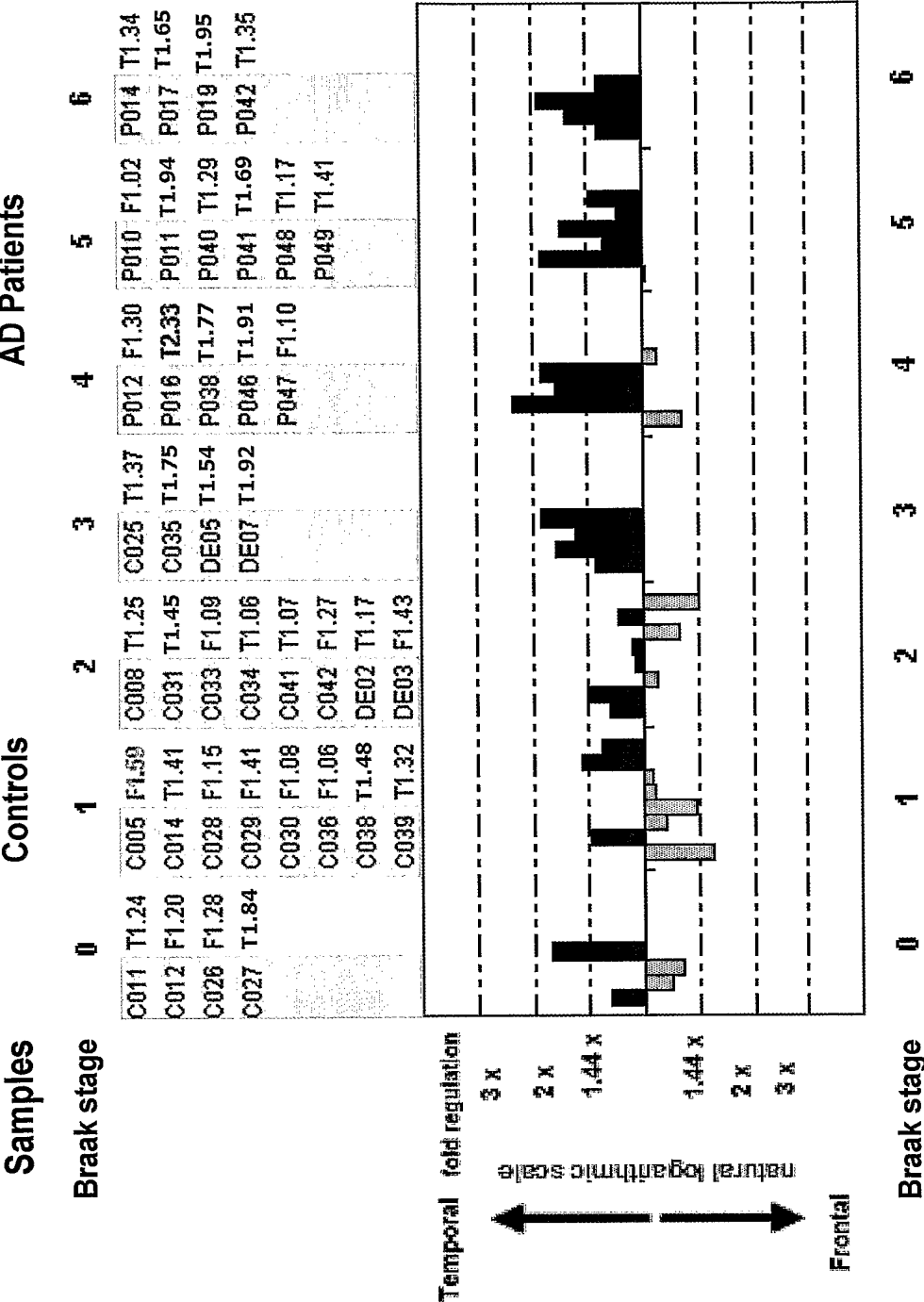


Fig. 30: Analysis of absolute mRNA expression of HIF3alpha splice variant 1

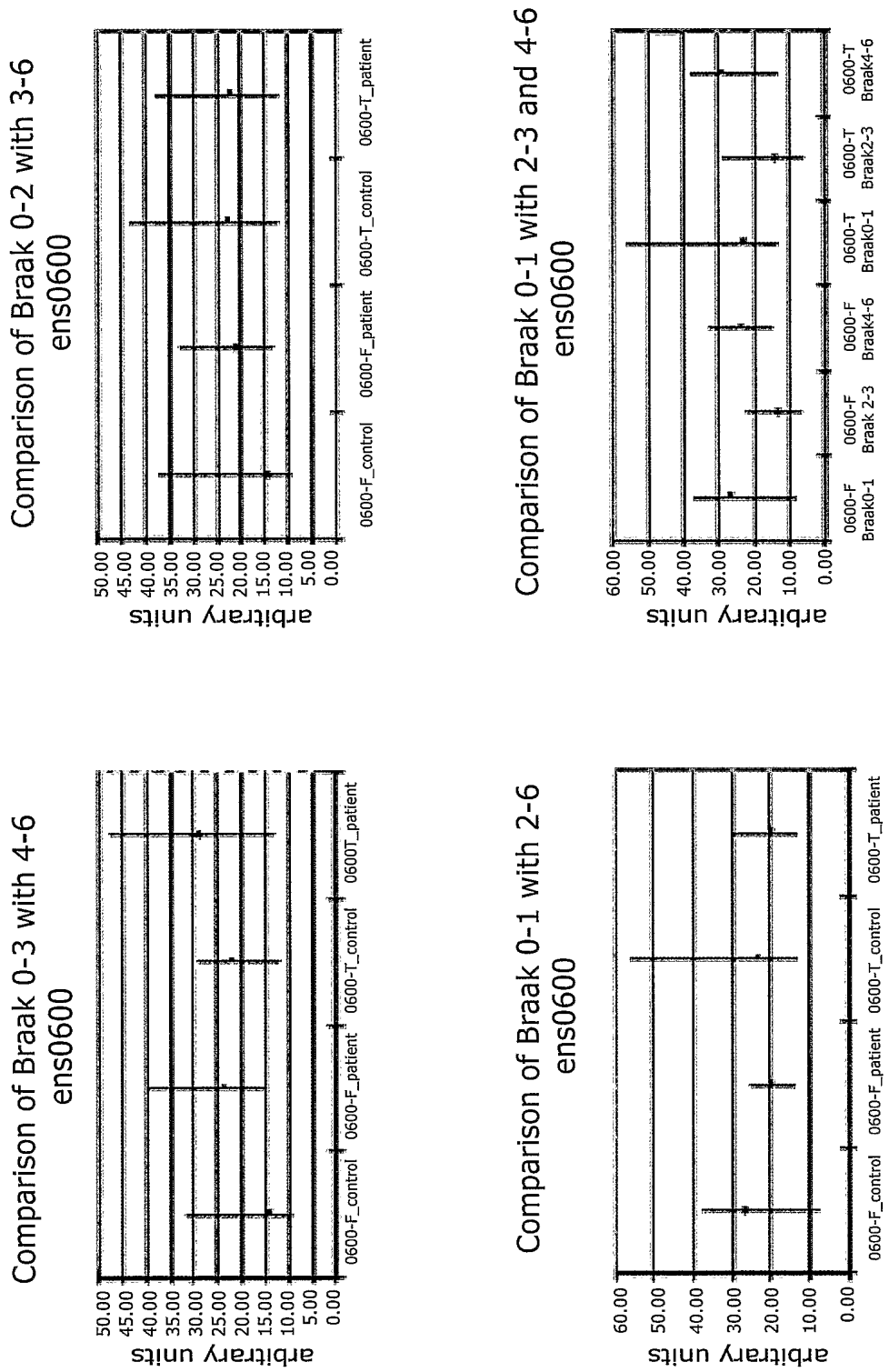


Fig. 31: Analysis of absolute mRNA expression of HIF3alpha splice variant 2

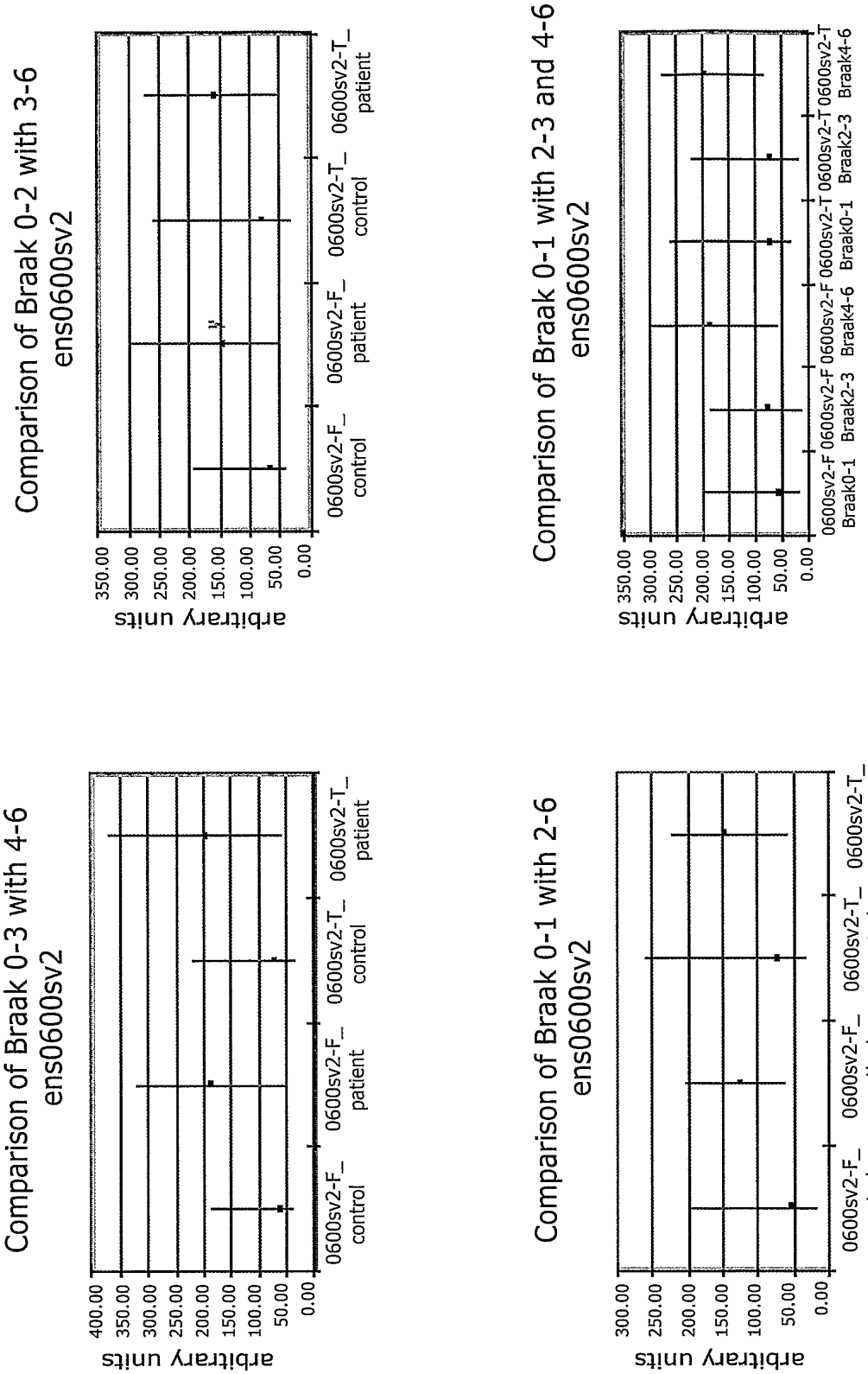


Fig. 32: Analysis of absolute mRNA expression of HIF3alpha splice variant 3

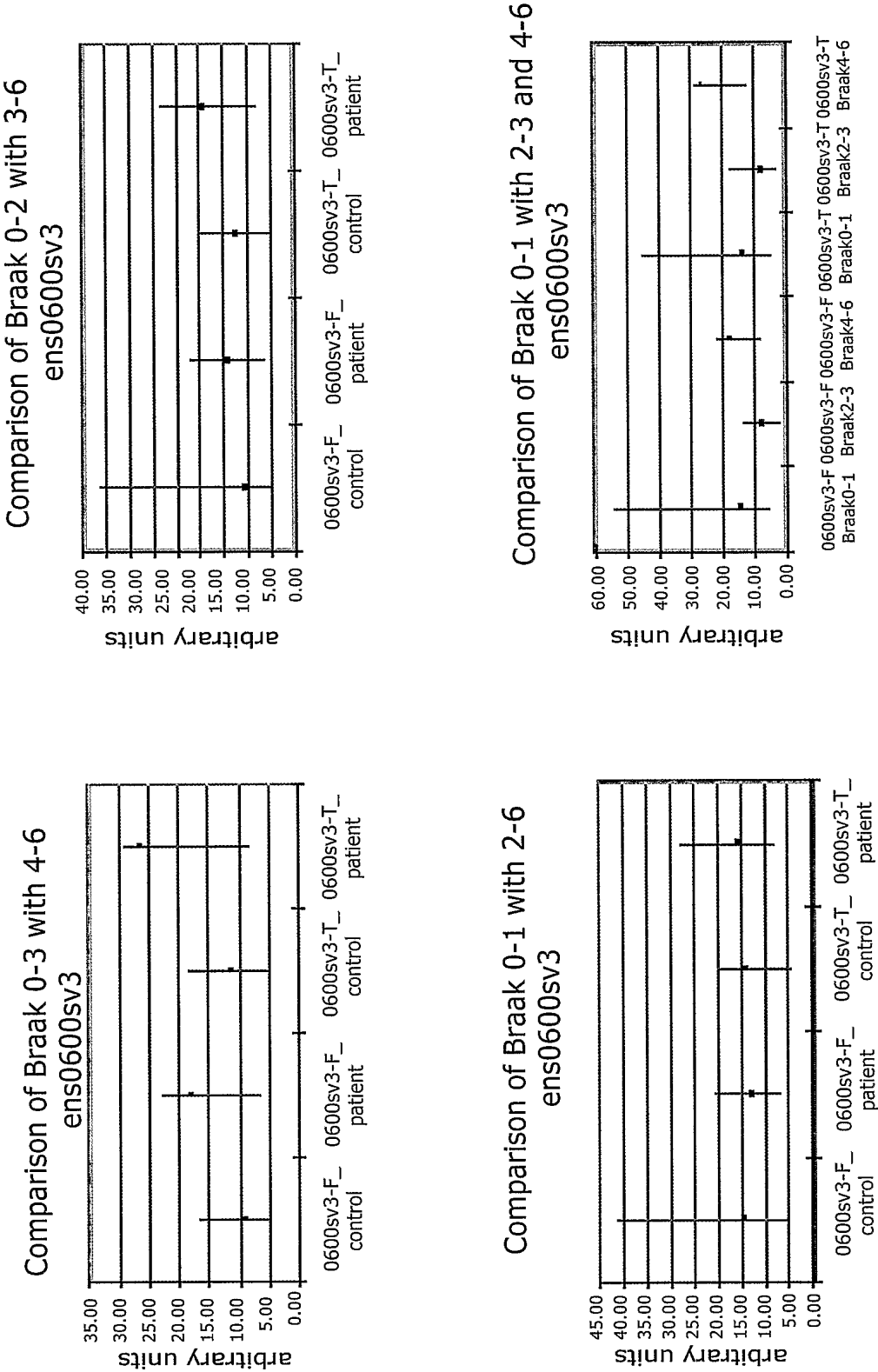
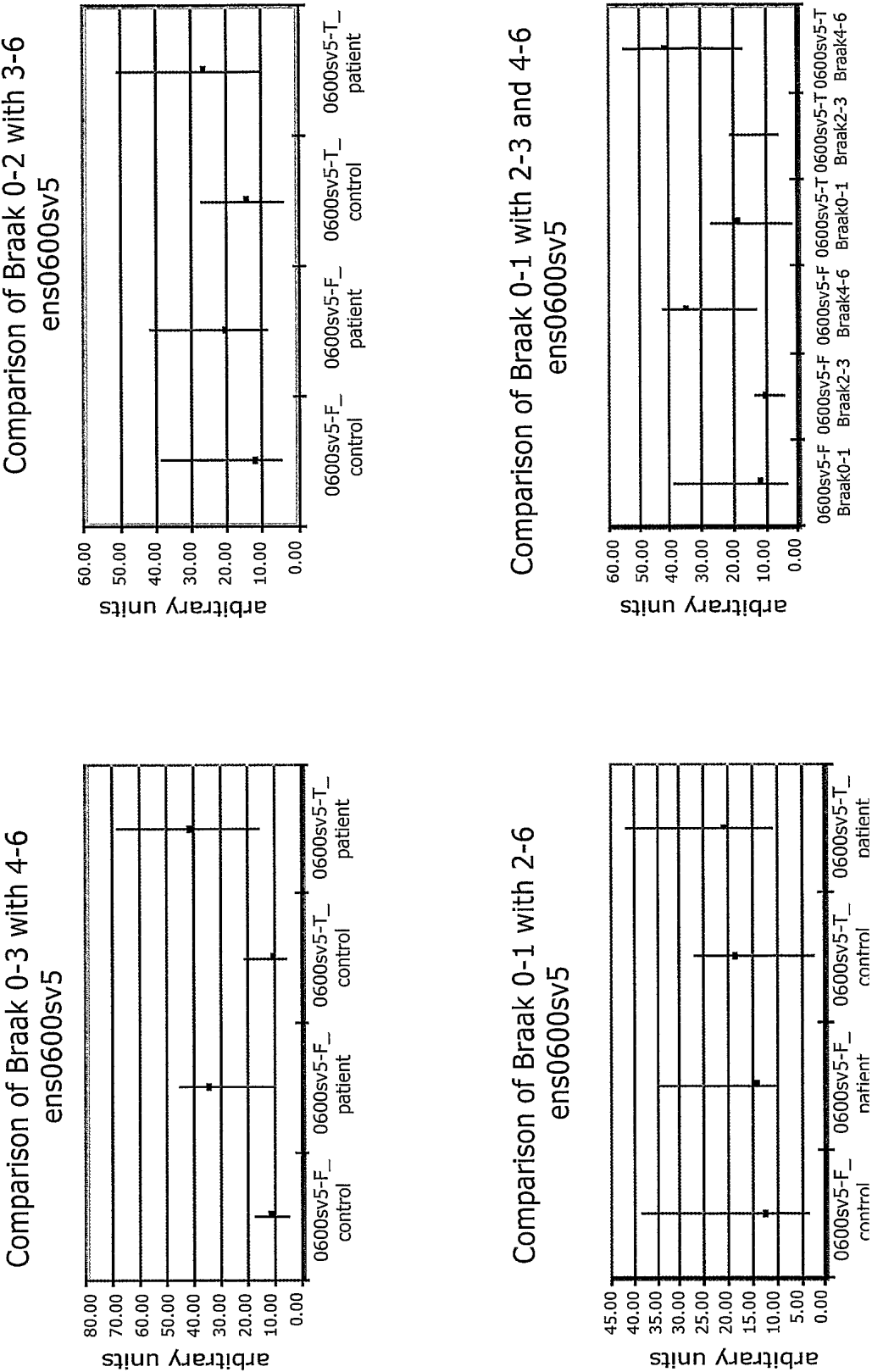
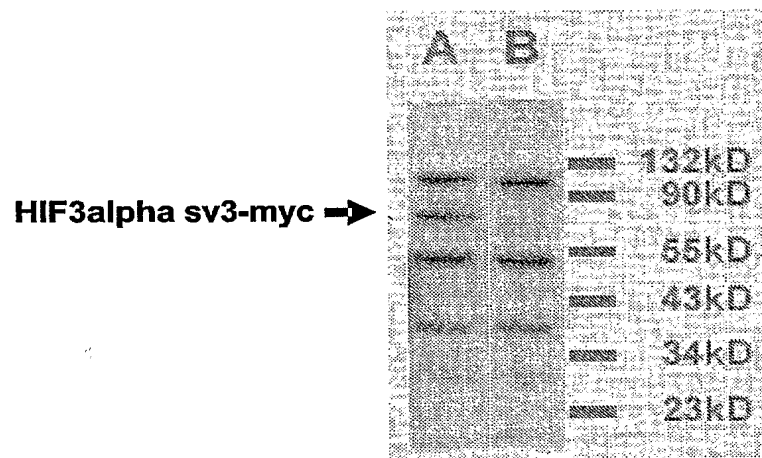


Fig. 33: Analysis of absolute mRNA expression of HIF3alpha splice variant 5



**Fig. 34: Western Blot of H4APPsw cell protein extracts
labeled with anti-HIF3alpha sv3-myc antibodies**



**Fig. 35: Immunofluorescence analysis of
HIF3alpha sv3 protein in neuroglioma cells**

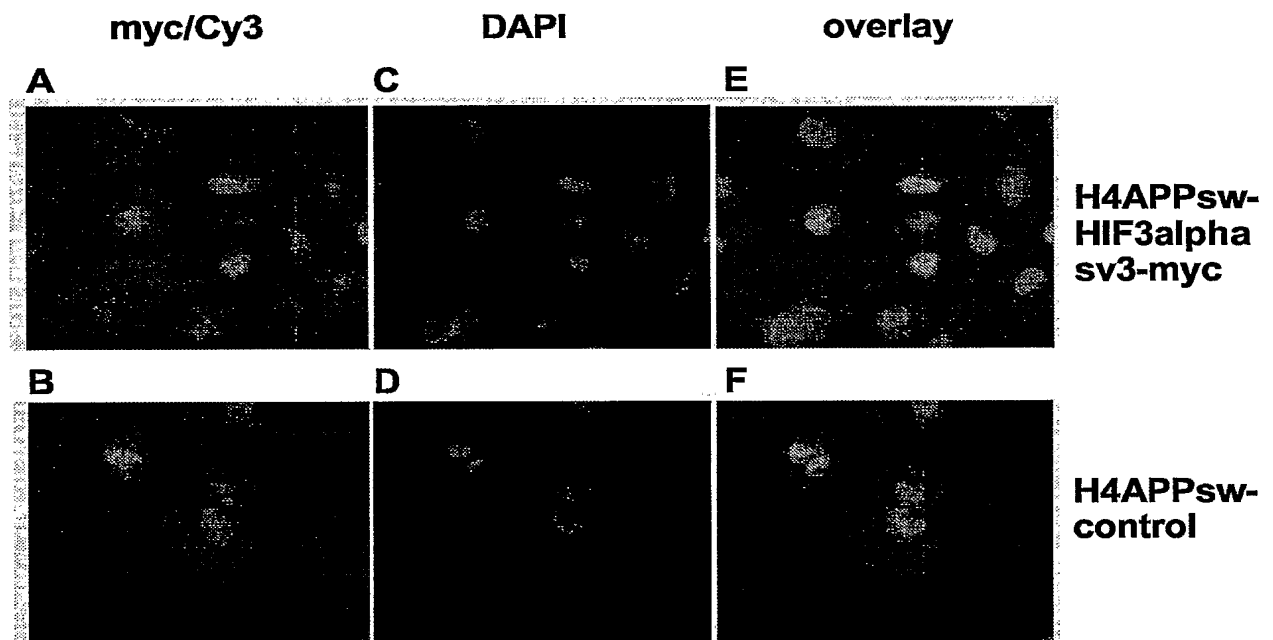


Fig. 36: Images of human brain sections labeled with anti-HIF3a antiserum, cell specific markers and DAPI

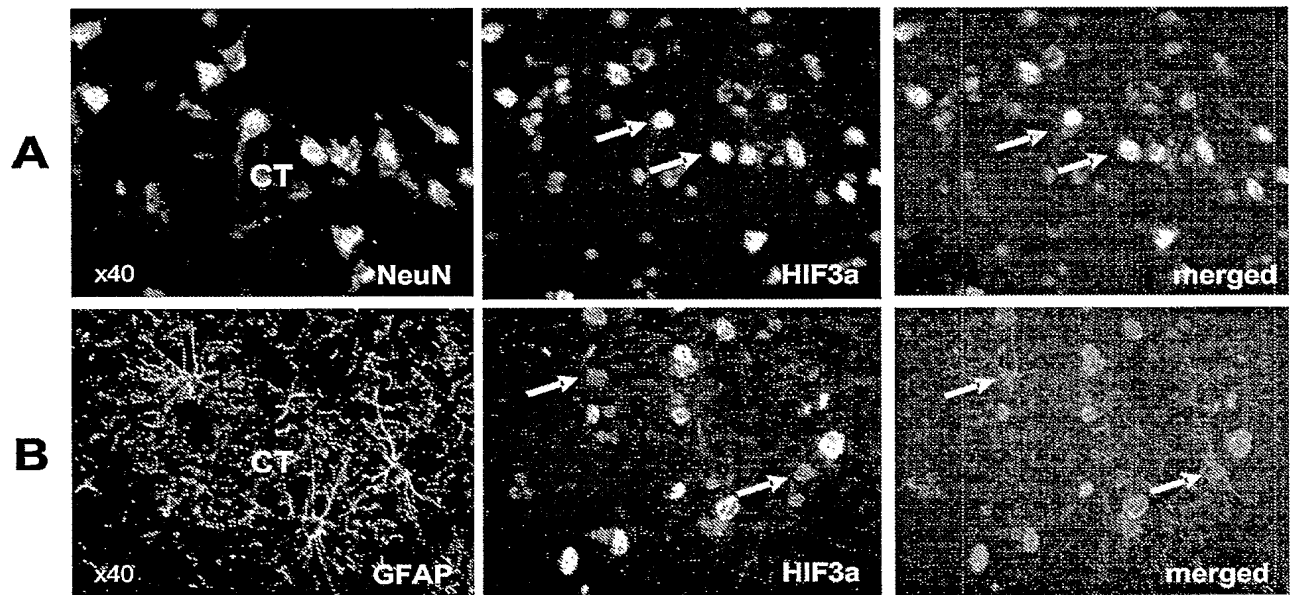
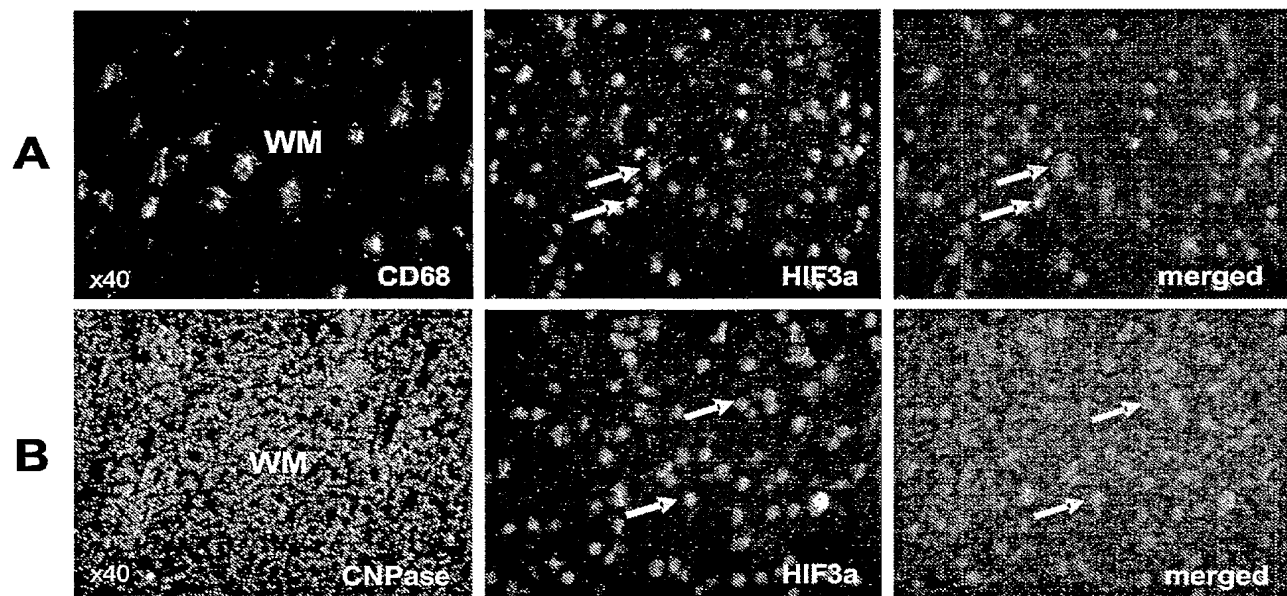


Fig. 37: Images of human brain sections labeled with anti-HIF3a antiserum, cell specific markers and DAPI



**Fig. 38 : Images of human brain sections labeled
with anti-HIF3a antiserum, GFAP and DAPI**

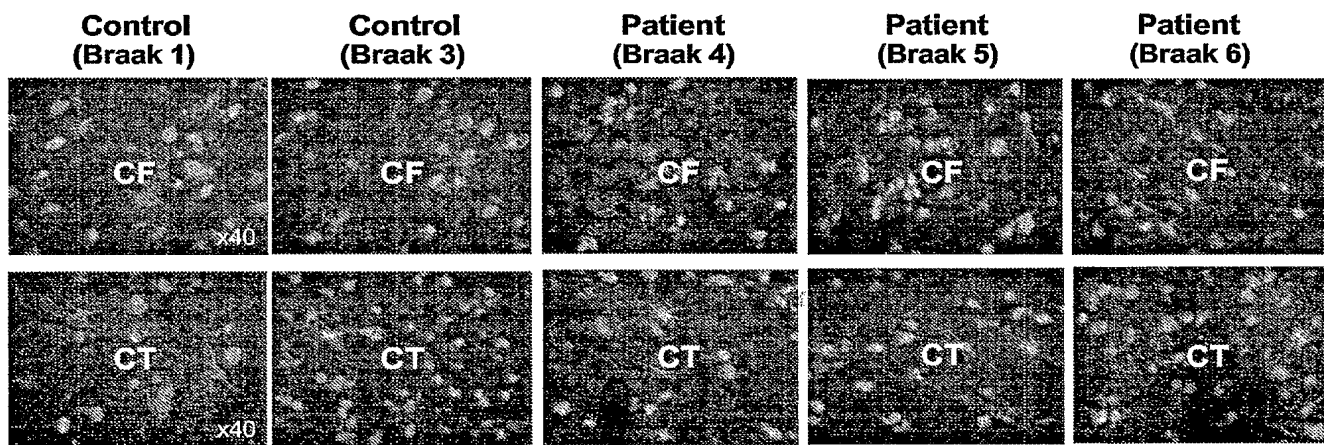


Fig. 39: Expression level of HIF3a sv3 expressing transgenic flies

name	cycle number	mean	stdev	error %	factor [normalization to rp49 cycle number]	mean*factor	difference	expression normalized to housekeeping gene and efficiency of HIF3a-sv3 primer	summary
HIF3a-sv3#3	30.03	30.237	0.2155	0.71265776	1	30.2366667			HIF3a-sv3#3 is 2.8 times higher expressed than HIF3a-sv3#4
HIF3a-sv3#3	30.22								
HIF3a-sv3#3	30.46								
HIF3a-sv3#4	30.96	31.160	0.1778	0.57048745	1.010625536	31.4910917	-1.25442502	-2.847544799	
HIF3a-sv3#4	31.22								
HIF3a-sv3#4	31.30								
HIF3a-sv3#57	27.84	27.953	0.1060	0.37915843	1.043347488	29.1650401	1.07162656	2.432592298	HIF3a-sv3#57 is 2.4 times higher expressed than HIF3a-sv3#3 and 5.3 times higher than HIF3a-sv3#4
HIF3a-sv3#57	27.97								
HIF3a-sv3#57	28.05						-2.32605168	-5.280137096	

$E = 10^{(-1/\text{slope})}$ slope = -2.806 $E = 2.27$ HIF3a-sv3 primer pair

name	rp49 cycle #	mean	stdev	error %	factor
HIF3a-sv3#3	19.63	19.657	0.0929	0.47269323	1
HIF3a-sv3#3	19.76				
HIF3a-sv3#3	19.58				
HIF3a-sv3#4	19.59	19.450	0.1929	0.99163504	1.010625536
HIF3a-sv3#4	19.23				
HIF3a-sv3#4	19.53				
HIF3a-sv3#57	18.97	18.840	0.1300	0.69002123	1.043347488
HIF3a-sv3#57	18.71				
HIF3a-sv3#57	18.84				

Fig. 40: Nuclear localization of HIF3a sv3 in transgenic *Drosophila*

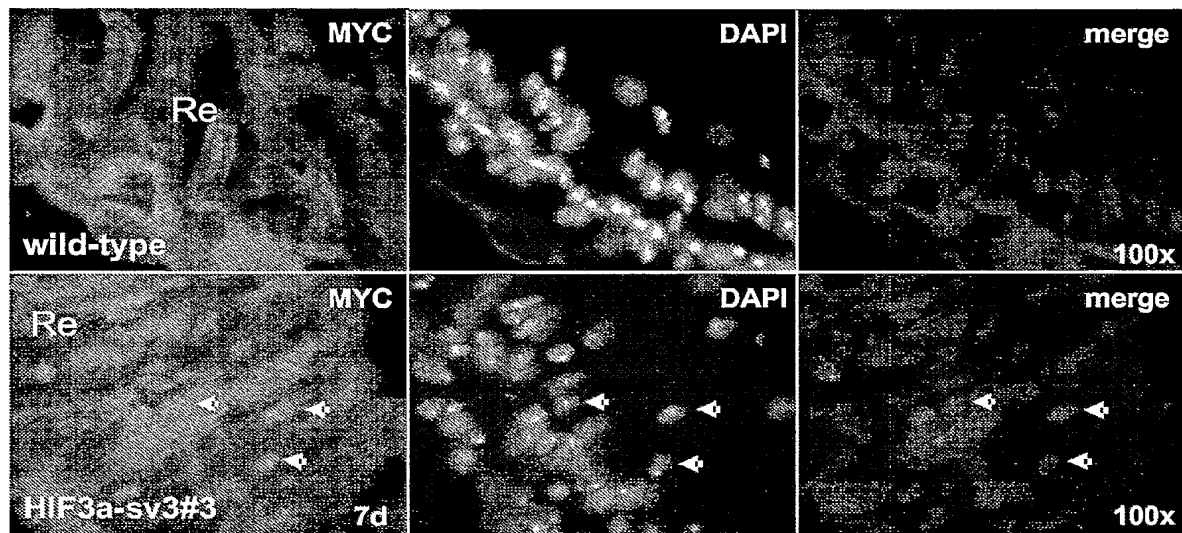


Fig. 41: HIF3a sv3 protein expression in transgenic flies

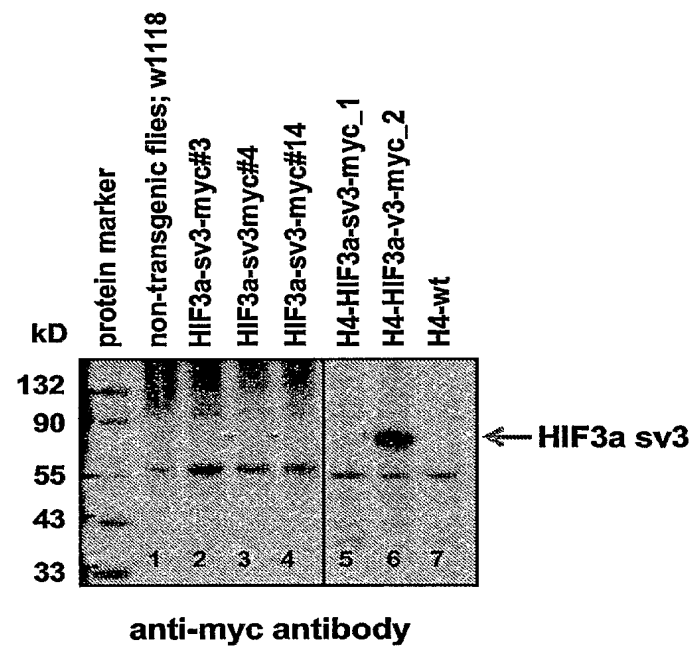


Fig. 42: HIF3a sv3 expression rescues photoreceptor cell degeneration

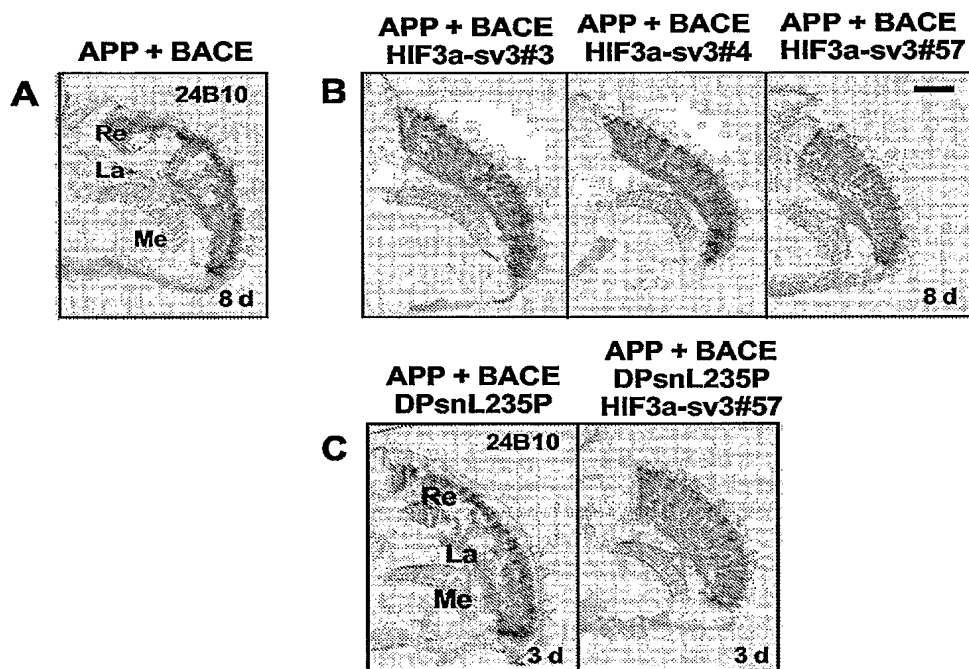
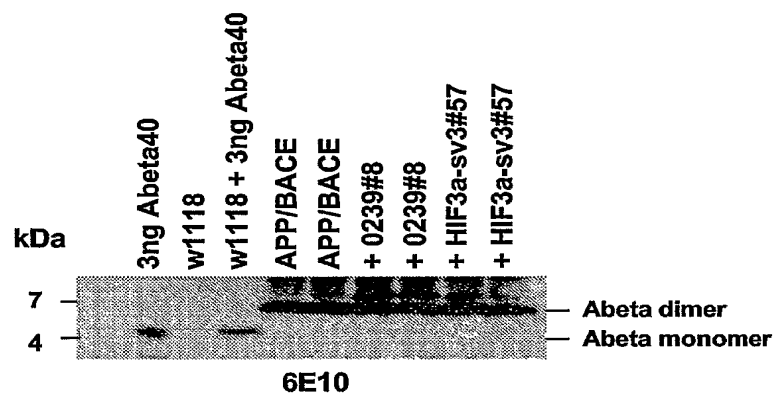


Fig. 43: Abeta level in hAPP/hBACE/HIF3a sv3 protein expressing flies



**Fig. 44: Abeta plaque deposition in
hAPP/hBACE/HIF3a sv3 expressing flies**

